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ARSENICAL DERMATITIS FROM TOBACCO.*

E. E. Barksdale, M.D.,
Danville, Virginia.

Introduction

The purpose of this paper is to call your attention to a previously unrecognized source of arsenic poisoning. It will be shown that tobacco, especially cigarettes, contains arsenic. A series of cases with arsenical exfoliative dermatitis will be presented.

Exfoliative dermatitis, or what is some times called a severe allergic eczema, is a clinical entity which may involve the entire body. The skin becomes reddened and covered with lamellated scales which are exfoliated or shed from the surface; itching and burning may be present in all degrees, or entirely absent. Chilliness is always a prominent symptom. In the severe cases death may occur either from kidney impairment or pulmonary involvement.

There are many causes of this condition. Various other skin diseases such as psoriasis, eczema, erythema multiforme, and blood dyscrasias may be responsible. Drugs such as mercury, phenolphthalein, chrysarobin and arsenic are also possible causes.

One of the most frequent and severe complications of anti-syphilitic treatment is an exfoliative dermatitis following the intravenous injection of an arsenical.

This paper will be limited to a discussion of arsenical exfoliative dermatitis from tobacco. For several years it has been recognized that arsenate of lead used as an insecticide on fruits and vegetables, might be a source of arsenic or lead toxicosis. Various steps have been taken to prevent the public from coming in contact with this poison. In recent years arsenate of lead has been widely used by the farmers as an insecticide on tobacco to kill what is commonly known as the tobacco worm. Previously this worm was killed by hand. Tobacco is frequently sprayed with arsenate of lead while it is growing. When it is placed on the market the arsenate of lead remains on the leaf as a white powder and nothing is done either in the redrying or manufacturing process to remove it. Consequently, practically every cigarette on the American market today contains arsenic in an amount which might be dangerous to the person who does not have a high tolerance for it.

In September, 1938, the *Consumers' Research Bulletin* made a determination of the lead and arsenic contents of five brands of cigarettes, namely: Camels, Murads, Lucky Strikes, Pall Malls, and Lord Salisburys, and issued the following statement:—"The lead content was found to vary from 11-30 ppm, and arsenic content was found to vary from 6-14 ppm, all too high for safety to the heavy smoker."

The author has analyzed five brands of cigarettes, and found them all to have a high arsenic content.

Procedure

The Gutzeit arsenic test has been used in all of these procedures. When it has been run on blood, 5 c.c. has been used. In the urine analysis 5 c.c. of a twenty-four hour specimen has been determined. The cigarettes have been analyzed individually.

Preparation of Material for Examination.—To destroy the organic matter, heat 5 gm. of blood or a measured amount of fluid to be tested (10 to 30 c.c.) with about 10 gm. of sodium or potassium sulphate and 15 c.c. of concentrated sulphuric acid in a Kjeldahl flask until clear. If clearing is slow, cool and add a small amount of potassium persulphate (or stannous chloride). Cool, dilute with about 10 c.c. of water, transfer quantitatively to a 50 c.c. volumetric flask, make up to volume with water and mix. Use aliquot portions for the tests, correcting for the dilution.

Method.—Set up several units of the arsenic apparatus (one for the unknown, one for the blank, and others for the standards). Each unit consists of a 50 c.c. generator bottle and a series of two absorp-

*Read before the seventieth annual session of the Medical Society of Virginia, at Richmond, October 3-5, 1939.

tion exit tubes and a text paper tube, all of which are connected by means of one-hole rubber stoppers. In each lower tube connecting with the bottle place a roll of dry lead acetate test paper; into each middle tube, a small piece of moist lead acetate glass wool; and into each small top tube, a strip of mercuric bromide test paper. Into each generator bottle put 8 gm. of granular zinc.

Into the bottle for the unknown, introduce the amount of prepared material chosen for the test (0.001 to 0.01 mg. of arsenic), and sufficient diluted sulphuric acid (1:4) to make 25 c.c. Stopper promptly. Into the bottles for the standards, place respectively 1 c.c., 2 c.c., etc., of the standard solution, and in each case sufficient diluted sulphuric acid to make 25 c.c. Stopper promptly. The blank is set up the same way, using only zinc and diluted acid in the generator. If the hydrogen gas is generated too slowly, place the units in warm water; if too fast, in cold water. Let run for one-half to one hour and compare with standards. Arsenic gives a deep orange color to the test papers.

Interfering Substances.—Antimony interferes, giving a gray color. Use some other test for arsenic. Sulphides give a black color to the lead acetate test paper. If this is marked repeat the test after complete removal of the sulphides by more thorough preparation of the material. Phosphoric acid gives a bright yellow color to the indicator paper, but if the stain is moistened with ammonia, that due to arsenic turns black, while that due to phosphoric acid (Phosphine) does not.

Reagents.—Granular zinc and concentrated sulphuric acid—both free from arsenic and antimony.

Arsenic Standard.—Dissolve 0.1 gm. of arsenic trioxide (finely powdered, dried over sulphuric acid and accurately weighed) in about 5 c.c. of 20 per cent sodium hydroxide solution, arsenic-free. Neutralize with dilute sulphuric acid (1:4), arsenic-free, add 10 c.c. of the same acid and sufficient distilled water to make 1 liter, and mix. Measure 10 c.c. of this into a liter flask, add 10 c.c. of diluted acid, and make to volume with distilled water. Each c.c. equals 0.001 mg. of arsenic trioxide. Make fresh.

Lead Acetate Test Paper.—Wet strips of filter paper, 6 mm. wide and 8 cm. long, with lead acetate test solution (9.5 gm. lead acetate crystals in distilled water to make 100 c.c.) and let dry quickly.

Lead Acetate Glass Wool.—Moisten glass wool in a mixture of equal parts of acetate test solution and distilled water, removing the excess by pressing between filter paper.

Mercuric Bromide Test Paper.—Cut stiff white filter paper into strips 3 mm. wide and about 12 cm. long. These can be bought and are more uniform. Wet papers with alcoholic mercuric bromide solution (5 gm. in 100 c.c. of alcohol, kept in a glass stoppered bottle away from the light), and let dry quickly in a dark place. (Copied from "Clinical Laboratory Methods"—Bray.)

CASES OF ARSENICAL DERMATITIS

In reporting these cases routine examinations which include physical, blood, and Wassermann will not be given except where something abnormal is found.

There were five cases of arsenical exfoliative dermatitis from tobacco reported by the author in the VIRGINIA MEDICAL MONTHLY, Vol. 66, November, 1939.

Case 1.—Mr. L. J., a fifty-five-year-old white male plumber, was first seen on April 17, 1939, at which time he had a mild exfoliative dermatitis which was especially pronounced around his face, arms, shoulders and back. At the time he was first seen, a twenty-four hour specimen of urine was collected and found to be positive for arsenic. At that time no treatment was given except he was asked to refrain from smoking cigarettes and he began to show improvement. Two weeks after he had discontinued the use of tobacco a blood test was found to be negative for arsenic. In a month's time he was entirely well. On several occasions since, he has smoked moderately—which has been followed by a mild itching of the skin every time.

Case 2.—Mr. W. N. V., a fifty-one-year-old white male railroad worker, was first seen on April 1, 1939, at which time he had a moderately severe generalized dermatitis. His blood arsenic was .02 mgm. per cent. He was placed on intravenous injection of calcium thiosulfate and asked to refrain from the use of tobacco. He was given a mild, soothing ointment, and in less than one month's time he was entirely well.

Case 3.—Mr. H. H. E., an eighty-three-year-old white male, farmer, was first seen on July 6, 1939, at which time he had a mild generalized dermatitis, of approximately one year's duration. His blood at this time was positive for arsenic. This patient stated that for years he had been smoking and chewing tobacco which he himself had been growing and that he had had no skin condition until arsenic of lead

was used on his tobacco last summer for the first time. This patient absolutely refused at first any treatment and it was impossible to convince him that tobacco might be the cause of his condition, and when heard from, about the first of September, his condition was getting worse. He finally got so bad off that he decided to stop tobacco and now he is well.

Case 4.—J. F., a eighteen-year-old colored factory boy, unemployed at the time, came in stating that following the 12th injection of "606" his skin began to itch; he had noticed no itching or discomfort following any of the previous treatments. He felt that the "shot" had probably caused the itching so did not go back to his physician for further anti-syphilitic treatment. However, his condition gradually became worse and exactly eight weeks after the last intravenous injection he came in showing a marked exfoliative dermatitis very characteristic of those seen following anti-syphilitic therapy.

I would like to call your attention to the fact that the injections were stopped immediately after the first sign of itching but the patient's condition continued to progress for eight weeks. This boy was in very bad shape and had not only a severe exfoliation but also a marked edema accompanied by a mild degree of jaundice. Due to breakage of the tube in transit a determination for arsenic was not obtained but it was thought that he had an arsenical exfoliative dermatitis. He was immediately placed on intravenous injections of calcium thiosulfate and asked to refrain from smoking and in two weeks his condition had entirely cleared up.

It is felt that if cigarettes are a source of arsenic poisoning, the patient receiving anti-syphilitic treatment is the one who might afford the more serious complications. It is entirely possible that mild cases of arsenical dermatitis following arsphenamine do not clear up as promptly as they should even though the physician discontinues the arsphenamine immediately because the patient continues to receive arsenic from tobacco.

CONTROL CASES

Case 1.—Miss F. P. C., a fifteen-year-old white girl, had an exfoliative dermatitis of several years' duration, and did not use tobacco. Her blood arsenic was negative and she was later found to be sensitive to eggs. Her condition cleared up when they were later removed from her diet.

Case 2.—Mr. E. T. D., was a sixty-year-old white man with a moderately severe exfoliative dermatitis of six months' duration. In spite of the fact that he was a heavy smoker, his blood was found to be negative for arsenic. He was later found to have a prostatitis and his condition responded to treatment.

Case 3.—This patient was a fifty-five-year-old white man with a mild exfoliative dermatitis of ten years' duration. He does not smoke and his blood is negative for arsenic and at the present time no cause is found for his condition.

Cases 4-5-6 are all normal controls and in spite of the fact that they were all heavy smokers, their blood was negative for arsenic.

ANALYSIS OF CIGARETTES

Five brands of cigarettes were analyzed from packs bought on the open market. One or two cigarettes were analyzed for its arsenic content, and then one or two more from the same pack were analyzed for arsenic after they had been smoked to an ash. The entire cigarette was burned up before the analysis was made. This analysis showed that an appreciable amount of arsenic is lost in the smoking process and so the person inhaling it could absorb it through the mucous membrane of the respiratory tract.

COMMENT

It is thought that exfoliative dermatitis is due to an allergic phenomenon. Undoubtedly if arsenic is the cause for these patients' condition they are hypersensitive to it. It is thought that the majority of people can use tobacco containing arsenic because they are not sensitive to it, just as the majority of syphilitic patients can take arsphenamine with no harmful results. It is possible that the excretory organs of a patient with severe exfoliative dermatitis might be so impaired as to render him unable to eliminate a normal intake of arsenic. If that is true one would have to reach the conclusion that arsenic is secondary to and not the cause of it. However, the blood of the control cases of exfoliative dermatitis does not contain arsenic which could eliminate this possibility. It is the author's belief that these patients get exfoliative dermatitis from the arsenic in their tobacco because they happen to be hypersensitive to it and this allergic state probably causes a spasm of the arterioles, thereby preventing normal excretion in that patient, which, of course, results in retention in the body. The clinical observations on these patients, namely, that they have shown much improvement when the tobacco has been removed is

probably the most definite proof that this is the cause of their condition.

SUMMARY

It is a well recognized fact that farmers use arsenic of lead as an insecticide on their tobacco.

This work along with that of the Consumers' Research has shown that the tobacco in cigarettes contains arsenic.

A series of cases with exfoliative dermatitis and a high blood arsenic content have been presented and it has been shown that they have cleared up on practically no treatment, other than the removal of tobacco.

The blood of patients with exfoliative dermatitis coming from other causes apparently does not contain arsenic even though they are heavy smokers.

The blood of normal individuals, even though they are heavy smokers, does not contain arsenic. The author recognizes that the number of cases herein reported is not sufficient to warrant any definite conclusions.

This paper has made an effort to bring to your attention another possible source of arsenic poisoning, namely, tobacco.

703 Masonic Temple.

DISCUSSION

DR. DUDLEY C. SMITH, University: This work of Dr. Barksdale is, I believe, a contribution of new knowledge to medicine. It makes available information which will benefit a skin condition which is very annoying and sometimes serious. It is usually stated that exfoliative dermatitis may result from three types of etiologic agents. Other types of skin diseases like chronic allergic eczema, psoriasis, etc., may be converted into a generalized scaly eruption. Poisonous agents get into the skin through the blood stream either from focal infection within the body, ingestion of toxic substances, or administration of drugs like arsphenamine. The third group is from external irritation, as in painters, workers in fertilizer factories, or orchardists who use sprays, etc. Any external irritation or internal toxemias of long standing or severe grade may produce a generalized exfoliative dermatitis.

Most chemicals are promptly absorbed from the respiratory system. The arsenic in tobacco is inhaled during smoking. Dr. Barksdale's experiments definitely prove this. The cases reported certainly seem to justify the conclusion that arsenic in tobacco is one of the causes of dermatitis. Arsenic has a special affinity for the epithelium of the skin and the skin appendages.

There is undoubtedly a major factor of hypersusceptibility in most cases of arsenic intoxication of all types, but this chemical is also a direct poisonous or irritating agent to tissue cells.

It is also suggested that the arsenic absorbed from smoking may be a contributing factor in the production of some of untoward reactions following anti-syphilitic therapy. One might further imagine that arsenic in tobacco might be the exciting or contributing etiologic agent in a number of other types of dermatitis or eczema either by absorption or direct contact. Also it is possible for injury to be done other tissues than the skin. Tobacco contains irritating substances which along with the heat increases the tendency to carcinoma of the mucous membranes of the mouth particularly. The arsenic might increase this tendency.

A high percentage of the total population would, I am sure, approve of tobacco manufacturers developing some method of not having arsenic in their products.

DR. CLAIBORNE T. JONES: I should like to ask the doctor in closing to say whether he has ever noticed this exfoliative dermatitis in cigarette smokers.

DR. RICHARD W. FOWLKES, Richmond: As a dermatologist I am certainly very much interested in Dr. Barksdale's work. I think, as Dr. Smith said, it is a real contribution and opens up an entirely new avenue of approach to some of these chronic diseases. Certainly we know that people become sensitized to arsenic and get arsenical dermatitis. If this is a method by which people acquire sensitivity to arsenic, certainly we ought to look into this and detect some of these cases.

I had occasion yesterday to talk to some chemists for the tobacco industry. They are discouraging the use of arsenic by farmers. One chemist has been on this work for about ten years. He says that the arsenic content tobacco is about one-fifth as much as the Government allows for apples and oranges and for cabbage and other green vegetables. In other words, the Department of Agriculture allows five times as much arsenic to be used on vegetables as is used on tobacco. Therefore, we had better watch out for cases of arsenical dermatitis resulting from the ingestion of arsenic which has been sprayed on fruit and vegetables. This chemist said that a lot of arsenic in the cigarettes remains in the ash. But that is not necessarily the case. The minute amount of arsenic which Dr. Barksdale's patients inhaled is sufficient to produce the dermatitis which he has described, because, once sensitized to arsenic, this small amount is ample to cause trouble. I think it is a grand paper, and I enjoyed it and I think we ought to be on the watch for this source, and other sources, of arsenic.

DR. F. D. WILSON, Norfolk: A few years ago I learned that diethyl glycol is sometimes used in treating the paper in which cigarettes are wrapped. After the unfortunate incident in which sulfanilamide sold in a Virginia city was found to be dissolved in diethyl glycol, I should like to ask the doctor whether diethyl glycol might not produce a reaction and whether some of these cases might have been poisoned by diethyl glycol in the cigarette paper.

DR. BARKSDALE, closing the discussion: I very much appreciate the discussion.

Someone has recently handed me a copy of a reference which I had not noticed in the literature and which

I should like to read to you. It is a case reported by Myers in 1929, which I did not notice in the literature.

(Dr. Barksdale then read the case report).

In regard to the question as to whether the absorption of arsenic might not also be from handling it, of course that might be true, especially in farmers handling the spray. None of these cases reported any dermatitis after handling sprays. Most of the cases were in textile workers.

In regard to manufacturers developing some other sprays than arsenic, I understand it can be done, but at the present time any other spray that is effective is more expensive, and naturally the farmer uses the cheapest spray he can get.

As to removal of arsenic from the tobacco, tobacco is sticky and the arsenic sprayed on the leaf remains there and is absorbed in the leaf while growing.

Cigar tobacco is entirely Kentucky and Cuban tobacco and, so far as we know,* arsenic is not used as a spray in those sections at all. I have not myself analyzed any cigars to find out, but the Consumers' Research Bureau did not report any arsenic in any brand of cigar.

Referring to Dr. Wilson's question as to whether cigarette paper contains any diethyl glycol, I cannot say. Recently I have separated the papers from the tobacco itself and have found a negligible amount of arsenic in the paper.

*Have since learned that this statement is not true.

VAGINAL PROSTHESIS.*

W. LOWNDES PEPLE, M.D.,
Richmond, Virginia.

The humble pessary like Greece and Rome has had its rise, its hour of glory, and then its slow decline. It would be an interesting thing to hear a group of doctors, say in their seventies, debate the question as to whether the pessary has ultimately accomplished more of good than of harm; whether in the light of all the good and evil that it has wrought, its existence has been justified. Time has not yet qualified me to participate in such a discussion, yet I make bold to say that I believe, with all its misuses, with all its inept, improper and even

Fig. 1.—Pessary with molded central plate and anterior and posterior apertures.

deliberately charlatanic applications, it has accomplished a great deal more of good than of harm.

The manifold variety and shapes of these appliances bear mute testimony to the ingenuity and industry of past generations of doctors. Dr. Tell Oppenheimer, with that whimsical admixture of humor and common sense so characteristic of that interesting family, once said that he had long since discarded all but two types of pessaries, the life-saver and the rocking chair. With a few modifications and qualifications I think that we may safely follow the example and advice of this level headed sage of Israel. After all, the object of mechanical support is to keep the uterus from coming down or falling backward. The mechanics involved consists of a lateral spreading of the vaginal walls so that they will not have slack enough to invert like a sleeve, for a sleeve spread out by a stretcher could not possibly invert upon itself. As for a mechanical device that can reach behind the cervix and push the body of the uterus forward and maintain it in normal position, I fear I cannot go all the way with Mr. Hodge.

Notwithstanding the extreme simplification and standardization of plastic and restorative operations upon the vagina, there still remains a rather large group of women who can be greatly benefited by the proper use of a properly fitted pessary and who for many good reasons cannot be given much assistance in any other way. Such may be the case with many old women, with complete or nearly complete prolapse, who, for mental or physical or constitutional reasons, one would not be willing to subject even to a simple operation.

I think the reason why there have been so many

*Read at a meeting of the Staff of the McGuire Clinic and St. Luke's Hospital, November 21, 1939.

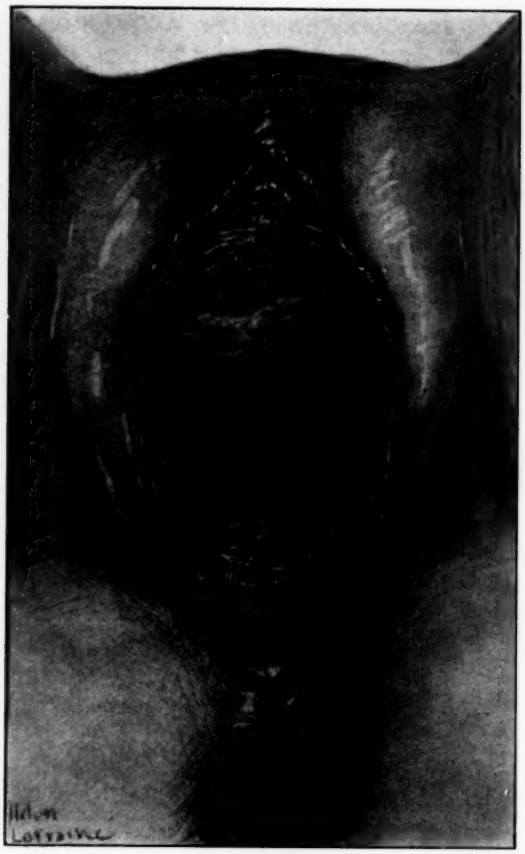


Fig. 2.—Perineal tear with bulging cystocele.

failures in this field is because pessaries have been fitted like hats or shoes from a box or case of standard sizes and shapes. But vaginas are not so adaptable as heads and feet, and the pessary must be made to conform to the shape and contour of the vagina by bending and moulding it to fit comfortably and competently in each specific case. It is the same old difference between ready-made and tailor-made.

The hard rubber circle or ring by immersion in boiling water can be made to assume any desired shape and contour, and this shape can as readily be fixed by plunging it into cold water. It sounds too elementary and simple to repeat, but I daresay there are many who have never tried to alter the shape of a standard pessary. If the vaginal outlet is proportionately small, a simple ring or an ovoid modification of the ring will spread the vagina, and the muscles at the outlet will bar its extrusion during muscular straining. If the outlet is too large to prevent its extrusion, we resort to the rocking chair type, moulding it to fit the vagina snugly and bending it so that during muscular straining the anterior end is thrust upward so as to steady itself behind the pubic arch. I am speaking, of course, of the standard hard rubber or vulcanite pessary which comes in rings of various diameters. The solid gum rubber and the more esthetic air cushion may fill a definite need in certain selected cases. They must, however, be subject to frequent replacements or a free purulent leucorrhea will follow that may be difficult to control.

The object of this paper is not to take up the whole subject of pessaries but to describe a modification of the standard appliance to meet a rather baffling condition arising in certain specific cases under my care. I shall lay no claim to originality, for some one will surely present me with a better instrument of finer construction dug up from the ruins of Tyre, Sodom or Gomorrah. If this thought did not deter one from such a claim, the following extract from an old system of gynecology would surely make even the boldest pause. "Every gynecologist, or practitioner who claimed special gynecological merit, felt himself called upon to invent a pessary or to modify some one else's instrument; and if, to quote Prof. Clifford Allbutt, 'the uterus could justly complain that it was always being impaled on a stem or perched on a twig,' it certainly would not

Fig. 3.—Lateral view of cystocele protruding through the vulva.

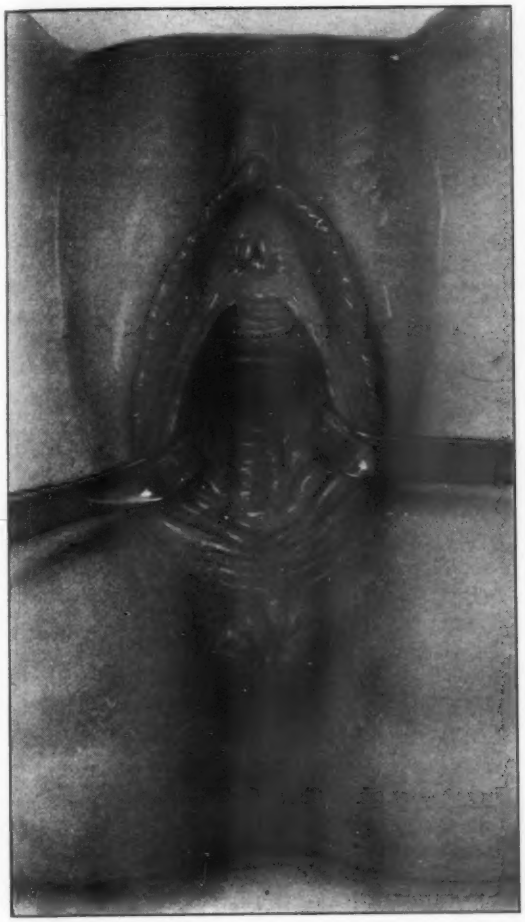


Fig. 4.—Anterior view showing cystocele held up by pessary.

complain that there was want of variety in the stem or monotony in the contour of the twig."*

Having thus disarmed my critics beforehand, I shall take up the cases that presented those difficulties and tell how those difficulties were overcome.

I refer to cases (inoperable for one of the reasons stated before) in which the pessary is perfectly fitted and maintained, the uterus is kept in a good if not a perfectly normal position, but through the large ring there bulges a big round or ovoid cystocele looking for all the world like a bald-headed vertex in its second stage of presentation.

My first thought was to get flat rubber bands over the pessary to fill in the gap and hold up the protruding bladder. Dr. Webster P. Barnes pointed out that this would carry with it all the disagreeable features of a soft rubber pessary, and asked why we could not get a vulcanite filling or floor welded into the ring. Then we took our problem to Dr. John Bell Williams.

The cunning handiwork of the dentists has always fascinated me and made me not a little curious. Dr. Williams did not seem to think that he had been presented with a problem at all. He handed me a box of sheets of beeswax and told me to fill in the ring with this wax in exactly the shape that I wanted it, and then to bring it back to him. I warmed and bent and moulded the sheets until I had a thin, solid plate of wax filling the inside of the ring. I then cut a hole in the posterior end for the cervix to protrude through and a smaller hole in the anterior end of the plate so that the mucosa of the anterior vaginal vault would protrude through, so as to fix it and prevent its sliding under pressure of muscular action. Two days later Dr. Williams handed me, not my ring with a floor welded into it, but a new, shiny, highly-polished instrument cast from my crude model of wax and rubber.

I have had several of these instruments in use for more than two years. The patients are comfortable and there is no cystocele. In the lithotomy posi-

Fig. 5.—Lateral view with posterior aperture of pessary encircling the cervix, anterior aperture gripping the anterior vaginal wall, and the central plate supporting the cystocele.

*Allbutt, Playfair, and Eden's System of Gynecology. published by Macmillan and Co., Limited, London, 1906.

tion under strain you see only the forward end of the pessary instead of the great bulge as before. These women come every three or four months to be sure that there is no irritation produced by pressure. So far this has been entirely lacking. If the parts are kept clean with simple antiseptic douches it need not occur at all.

OBSERVATIONS BASED UPON THE STUDY OF 1,434 SKIN CANCERS.*

CHARLES PHILLIPS, M.D.,
Surgical Pathologist, Scott and White Clinic,
Temple, Texas.

Eight years ago the author moved from Virginia to live in central Texas and become associated with a private clinic as surgical pathologist. The most striking thing noted in the types of tissues coming into the laboratory was the high incidence of skin cancer, which was in marked contrast to that in the experience during a similar period of tissue study in Virginia. In about twenty-five thousand surgical tissues studied in the latter state and time there were seen only a few of epithelioma or melanoma of the skin. It should be stated that during the period in Virginia many Negroes furnished material for study and the known incidence of skin cancer in that race is low. During the past eight years, one in twenty surgical tissues studied by the author in the laboratory in Texas was from skin cancer. This contrast is so great that it might be well to consider the subject briefly.

TABLE No. 1—OCCUPATIONS OF PATIENTS HAVING 1,434 SKIN CANCERS OF TYPES INDICATED

	Farmer Type	Laborer	Business	Professional	Housewife	Miscellaneous	Not Recorded
Basal Cell Epithelioma	175 27.0%	23 3.4%	62 9.6%	32 4.7%	25 3.5%	7 0.2%	323 50%
Squamous Cell Epithelioma	183 28.2%	30 4.6%	28 4.3%	18 2.7%	20 3.0%	45 6.9%	 51%
Melanoma	31 22.2%	3 2.1%	11 7.8%	7 5.0%	16 11.5%		 51.1%

Several facts stand out in this study. Texas is a very large state with a climate that varies subtropical along part of its Gulf Coast to that found in high mountains having a low rainfall. In the eastern counties of the state the average annual rainfall is fifty inches, while in many western counties it is less than ten inches. In between these lie great areas of land varying from arid wastes to the finest farming country. The cooling winds coming in at night from the Gulf of Mexico in the long, hot summers are a blessing to the people, because sleep is then a pleasure; but. when the sun goes to work on the land, the same humid, cool winds rapidly lose their moisture and become hot and dry. In addition to this, the hours of sunshine are long, and this means intense ultraviolet irradiation, to which a population largely agricultural is exposed. This is true not only of the summer, for Texas is far enough south to have a generally mild climate over much of the state even in winter. Ultraviolet light is known as great value to mankind, but human experience and recorded experiments unite to show that prolonged exposure to its actinic effect, along with that to general weather, will often result in damage to some persons. The climatic effect of much sunshine and hot, dry winds over much of the state upon the skins of persons working outdoors for their living probably is the largest factor in the high incidence of cancer of the skin in Texas. We are now studying this whole matter in detail and know that not all outdoor workers develop epithelioma, but that age, occupation, race, and skin types must be considered. We found much more skin cancer in blonds than in brunettes, and a typical cancer

*Read before the seventieth annual session of the Medical Society of Virginia, at Richmond, October 3-5, 1939.

skin we know very well to be lightly pigmented, florid, freckled, rough, rather dry, and too frequently neglected as to the need of special care. Mexicans, we find, have a rather low incidence, Negroes still lower. No complete figures are at present available comparing dry country, outdoor workers with those of areas in which the air contains more moisture. There is nothing particularly new about studies such as these, for medical literature has references to similar observations in different parts of the world and on peoples of different races.

The material for this study has come from a review of the clinical histories of 1,182 patients seen at the Scott and White Clinic, and the Gulf, Colorado, and Santa Fe Hospital in Temple, Texas, for the period of the past eighteen years. During that time there have been 172,350 registrations. We have records of 1,482 microscopically verified skin cancers during that time, giving an incidence of one in 116 registrations. This figure would be much higher if clinical diagnoses had been counted also, for many of our patients have been treated prior to the past ten years, and are even occasionally treated now, for epithelioma of the skin without biopsy preceding actual destruction of the lesion. This is reasonable in the hands of experienced clinicians. There are many articles on record without microscopic verification of lesions. Search through medical literature for articles by Texas doctors shows that they are aware of the high incidence of skin cancer in Texas patients but that no systematic record has been made of the matter.

Figures on the mortality from cancer for the years 1934-1938 from the State Bureau of Vital Statistics show that the rate is about the same, though fluctuating somewhat. About one in thirty deaths per year from skin cancer among persons dying from cancer and other tumors are recorded. In our series we have kept no detailed record of annual incidence and have not completed our follow-up of all the patients included in the study.

The author has sent questionnaires to most of the hospitals in Virginia seeking information for comparison of the frequency of cancer of the skin in that State and Texas. So few have been answered that little material of value has been obtained. St. Vincents Hospital in Norfolk reports that its records show for 8,000 hospital admissions in two years ten verified cases of basal cell epithelioma, four of squamous cell epithelioma, and three of melanoma, all of the skin. This gives some idea of the incidence, with seventeen skin cancers in 8,000 hospital admissions in a typical Virginia coast city. The Hospital Division of the Medical College of Virginia reports twenty-two primary skin cancers in its services from 1934 to 1939. Central State Hospital in Petersburg, having all Negro patients, reports four squamous cell epitheliomas in 3,493 first admissions. Information from the Bureau of Vital Statistics on mortality rates in skin cancer is not available at the present

TABLE No. 2—HISTOLOGICAL GRADES 1,434 SKIN CANCERS OF TYPES INDICATED

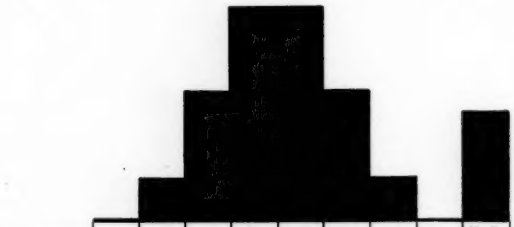
	Grade 1	Grade 2	Grade 3	Grade 4	Ungraded
Basal Cell Epithelioma	51 7.9%	350 54.1%	65 9.6%	10 1.5%	181 28.2%
Squamous Cell Epithelioma	147 22.7%	204 31.5%	108 15.1%	22 3.4%	152 23.4%
Melanoma	20 14.0%	41 29.2%	56 40.0%	17 12.1%	6 4.3%

TABLE No. 3—NATURE OF LESION, INCIDENCE OF RECURRENCE, METASTASIS, SEX IN 1,434 SKIN CANCERS OF TYPES INDICATED

	Tumor	Ulcer	Keratosis	Mole	Recur. Present	Metast. Present	Male	Female	Sex-Not Recorded
Basal Cell Epithelioma	418 64.8%	91 14.3%	146 22.5%	17 2.7%	79 11.6%	2 0.3%	365 56.3%	181 27.9%	101 15.9%
Squamous Cell Epithelioma	276 41.1%	200 31.4%	157 24.1%		89 13.7%	22 3.3%	342 52.8%	121 18.7%	184 38.5%
Melanoma	80 57.1%			43 30.7%	21 15.0%	50 35.7%	67 47.1%	51 36.4%	5 3.5%

writing. Apparently, the figures for Virginia have never been worked up in any systematic way, and so the true incidence is only to be guessed at. This situation is rather typical of the nation as a whole, but gradually data are accumulating, and, so, ten years from now much more of the true incidence of the different kinds of cancer will be known.

The 1,434 verified cancers of this series fall naturally into three groups. There are 647 basal cell epitheliomas, 647 squamous cell epitheliomas, and 140 melanomas. It is incidental that the number of



AGE GROUPS	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Not Recorded
No. LESIONS	7	31	93	150	153	92	36	1	84
PERCENTAGE	0.2	4.7	14.3	23.5	23.6	14.3	4.6	0.1	12.9

TABLE No. 4—AGE GROUPS 647 SQUAMOUS CELL EPITHELIOMAS

lesions of two types of epithelioma are the same. No selection has been made. The study has occupied a year and includes classification of the pathology of the process; the nature, duration, and location of the lesion; the history of previous treatment; the sex, age, and race of the patient; the presence or absence of recurrence or metastasis at the first examination; the treatment received here and elsewhere. Except for the smaller group of melanomas, no complete follow-up is recorded now.

BASAL CELL EPITHELIOMA

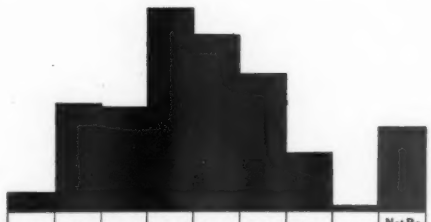
Case histories of 534 patients show that they had 647 separate epitheliomas of this type with 19.3 per cent occurring as multiple lesions varying from two to twelve in number per person. About one-fourth of the patients were engaged in some outdoor occupation, with 58.8 per cent reporting the duration of the lesion as more than one year. The age of the youngest patient was below twenty, that of the oldest patient nearly ninety, but more lesions were found between sixty and seventy years than in any other decade. There were sixteen separate anatomical sites of lesions described, with 31.6 per cent on the face, 22.7 per cent on the nose, 15.1 per cent on the neck, 7.7 per cent on the forehead, 4.7 per cent at the inner canthus of an eye. It is interesting to note that the majority of lesions recorded were on weather-exposed surfaces with few on areas covered by clothing. Only four lesions were described as being on the hands. The size of the process was large enough to be called a tumor in 64.6 per cent; a scaly, keratotic area in 22.5 per cent; a chronic ulcer in 14.3 per cent. Well over half of the group were males.

The epitheliomas were studied pathologically and graded by the familiar one to four method of Broders. We note that 54.1 per cent were of grade two; 9.6 per cent were of grade three; 7.9 per cent were of grade one; 1.5 per cent were of grade four; 28.2 per cent were ungraded. Records show that 11.6 per cent had recurrence present at the first examination. Only two lesions were noted as being metastatic. This coincides with the usual opinion that basal cell epithelioma does not often metastasize. Both of these patients having the metastatic processes died fairly promptly of systemic malignancy. Since the bulk of basal cell epitheliomas are of grade two, they tend to recur at the operative site. A new tumor there or a recurrent one offers the pathologist a nice task of differential diagnosis.

AGE GROUPS	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	Not Recorded
No. LESIONS	1	5	41	83	165	186	115	54	117
PERCENTAGE	0.1	0.7	6.7	13.5	25.5	28.5	17.7	8.5	18.1

TABLE No. 5—AGE GROUPS 647 BASAL CELL EPITHELIOMAS

Many of these patients had a dry, seborrheic type of skin, often requiring considerable attention to the rough places. It has been difficult to decide upon many border-line biopsy specimens. A small group of 6.1 per cent of the patients gave a definite history of trauma with epithelioma developing at that site. All these persons were white Americans except one, who was a Mexican. The Clinic has almost no Negro patients, and, so, although there are many Negroes in Texas, our report covers practically none of them.



AGE GROUPS	1-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	Not Recorded
No. LESIONS	3	18	15	31	27	23	9	1	12
PERCENTAGE	2.2	11.8	11.5	22.3	19.3	15.2	6.4	0.7	9.2

TABLE No. 6—AGE GROUPS 139 MELANOMAS

Many of the patients in this group of 647 had had previous treatment by cautery, irradiation, excision, or cancer paste or plaster administered by quacks. Often, the condition of the lesion when we saw it had been aggravated by the former treatment. Practically all these cancers were treated at the Clinic by cautery excision, sometimes followed by irradiation. Our surgeons feel that this process is simple, effective, and quick and that it yields good end-results. The recurrence rate after this treatment is negligible, but destruction of the cancer must be complete.

SQUAMOUS CELL EPITHELIOMA

The second large group of skin cancers studied is that of the squamous cell epithelioma, which numbers 647 proved separate processes occurring in 465 persons. Many individuals had more than one growth over the time observed, one patient having a record of twelve. With this type of epithelioma the outdoor worker again is in the largest occupational group involved, about one-fourth being of the farmer type. An age grouping shows the greatest incidence at from fifty to seventy years of age, with a little tendency toward involvement of younger persons. The actual growth is recorded as tumor in 41.1 per cent; chronic ulcer in 31.4 per cent; as warty, scaly, or keratotic condition in 24.1 per cent. Of the twenty-four anatomical sites described, 39.7 per cent were on the face, 11.5 per cent on the neck, 10.2 per cent on the hands, 8.5 per cent on the nose, 7.4 per cent on the ears. Again, weather-exposed parts of the body are chiefly involved, although a few lesions are recorded in parts of the body usually covered by clothing. Growths on the hand were usually on the dorsal surface and had been considered as warts until they began to grow and ulcerate.

Histological grading of the 647 tumors divides them as follows: 31.5 per cent were of grade two; 22.7 per cent were of grade one; 15.1 per cent were of grade three; 3.4 per cent were of grade four; 23.4 per cent were ungraded. The squamous cell epithelioma is more dangerous than the basal cell form, because the cells invade and metastasize more quickly, and many rather well differentiated types are rather radioresistant. Over 40 per cent of them had been present over a year, most of them many years. The recurrence rate was 13.7 per cent at first examination; the metatasis was 3.4 per cent at first examination. Part of the low incidence of the latter is due to the fact that about one-third of the total series occurred as grade two malignancy and grade two

TABLE No. 7—123 PATIENTS HAVING 140 MELANOMAS

Histol. Grade	Male	Female	Sex not rec.	Recur. present first exam.	Metast. present first exam.	No. Living	No. Untraced	Dead other Causes	Dead Melanoma	Melanoma Death Rate
1	8	9		1	1	11	4	1	1	8.3%
2	16	16		5	4	14	5	2	9	81.8%
3	26	14	3	12	30	5	12	4	22	100%
4	7	7		2	13	1	4		9	100%
NONMELANOTIC TYPE										
1	1	1	1			2	1			
2	7	2				4	4		1	100%
3		1			1		1			
4	1	1			1	2				
Un.	1				1		1			
UNGRADED										
	3	2		1	4		2		3	100%

epitheliomas tend more to local recurrence than to remote spread. Incidentally, greater difficulty has been experienced in curing this grade than any other.

Well over one-half of the squamous cell epitheliomas occur in males. Examining clinicians noted that 23.4 per cent of all these persons had rather dry skins of the seborrheic type and that this condition was reported as aggravated by sunburn. Most of these persons seemed rather indifferent to localized skin health, although many had had previous treatment, which usually included some type of local medication, cautery, or electric needle to the stubborn local lesion. Some had been influenced by what somebody had told them and had gone to a "cancer specialist", an ubiquitous pest the country over who uses pastes, plasters, acids, or even lye to remove the local disease. Of course, as a rule, the patient, when finally coming to the doctor, is minus a lot of tissue as well as dollars, and we have difficulty in applying approved modern therapy.

It is interesting that the persons in the group report that 7.4 per cent of the lesions have a definite history of trauma at the tumor site. Injuries are usually of minor significance, such as scratches, cuts from a razor while shaving, cuts by splinters of wood while cutting wood, injuries from barbed wire or thorns, pecking on face or hands by chickens. Most of the lesions on the hands were in farmers, who the world over might be exposed to the same kinds of trauma. In three persons a squamous cell tumor developed on the bed of an old burn, while one followed an old X-ray radio-dermatitis. One of two Negroes in all the epitheliomas is in the squamous cell group, all the rest of the patients being white Americans.

MELANOMA

In this city in 1933 the author reported before the Southern Medical Association a series of eighty-eight melanomas of the skin. He now brings an additional five-year report on the same group with a number added, so that the total is now 140 verified lesions. No contention is made that persons in Texas have more melanomas than persons elsewhere, but the great prevalence of pigmented moles and the tragic results of lack of timely destruction of some of them or inadequate treatment to early lesions make necessary a discussion of this condition when cancer of the skin is the subject. No review of the subject will be made now, but the author insists that cells present in seemingly innocent moles are simply dynamite waiting a suitable detonator before explosion. Like dynamite, they should be expertly handled or let alone.

In the present series of 140 microscopically verified melanomas there were 123 persons, a few more males than females, of ages varying from nine years in the youngest to eighty-one years in the oldest. The peak of incidence was reached between forty and fifty, about ten years as an average below that of epitheliomas of the face. The number of persons engaged in outdoor occupations is several times that of those in any other occupational group. Nearly as many patients state that their lesions have been present a few months as those indicating the duration as over one year. Examination reveals that melanomas are found in fourteen anatomical sites, which are, in order of frequency, axilla (glands), face, groin (glands), leg, arm, foot, abdominal wall, hand, back, eyelid gluteal region, lymph glands (not designated), shoulder. It will be noted that many areas of the body regularly covered by clothing are the sites of melanoma and that the anatomical distribution is not at all the same as in the epitheliomas described above. This development of neoplasms matches that in the experience of examiners who record moles of different kinds widely distributed over the body. We have seen no melanoma of the scalp, but such has been recorded by others.

Of the 140 separate growths graded upon a histological bases, seventeen are in grade one, thirty-two in grade two, forty in grade three, fourteen in grade four, five ungraded. In the non-melanotic group, two are in grade one, nine in grade two, one in grade three, two in grade four, one ungraded. It requires considerable experience to diagnose a low grade melanoma, because moles vary widely in structure, but it is in this grade that pathologists must be accurate, because we find that 8.3 per cent of our tumors of grade one have died. More than 80 per cent of those of grade two, when followed long enough, have died. Practically all of the grades three and four have died or will die, as some recorded as living now have been operated upon only a few months. The longest time that a patient has been followed is sixteen years; the shortest time post-operative is six months from the present writing. Of the whole group, those reported as living at this time have survived an average of 4.7 years post-operative. Of the forty-five patients recorded as dead from melanoma the average patient lived 14.1 months

after operation. The shortest span was eight days, the longest nine years. The death rate from melanoma, based upon a study of eighty-eight cases in 1933, was 46.5 per cent. The present series has a death rate for melanoma of 54.8 per cent. If families or doctors would reply to follow-up letters concerning patients such as these, the whole world would profit from the assembly of accurate data, but, as it is, this, like other large series, has many unfinished records in it.

There may be those who doubt the identity of such a neoplasm as a non-melanotic melanoma, but the author warns them that, whether or not they like the term used here, the cells of nevi are capable of producing melanin in a primary or metastatic tumor, though we do not know how or why this is true. With or without melanin, these cells, when malignant, can kill their hosts with great effectiveness, and the pathologist must not lightly regard their apparent innocent appearance. Although the non-melanotic melanoma is not generally as malignant as its pigmented relative, our small series of sixteen lesions of the cases treated has one death in it from this cause. Another patient with a grade four metastasis is only six months post-operative.

As a rule, previous treatment of these patients has been ineffective, for twenty lesions were recurrent at first examination and forty-eight showed metastasis at first examination. There were forty-three tumors of grade three malignancy, and it is found that forty-one of these showed either recurrence or metastasis at first examination. Naturally, the death rate is high. Grade four tumors often kill quickly.

Treatment here has been largely by local cautery excision, usually a wide one, in the hope that most of the malignant cells might be included in the process. Irradiation to supplement excision was used in thirty per cent, although in general the melanoma cell is known to be rather radio-resistant. Regional block gland dissection was used on 11.7 per cent of patients in the same hope expressed above. We find that the prognosis of cases of melanoma depends upon many factors and therefore try to do something for each case not frankly inoperable. If the average hopeless melanoma patient lives fourteen months after operation, there is no sense in not trying to help him, and we approach this decision deliberately but after frank conference with all concerned.

We recommend again to the profession the need for full light to be thrown upon this problem and wish here to repeat a warning given in 1933 that, unless pigmented moles can be completely destroyed at first treatment by the doctor, all must learn that "Don't monkey with pigmented moles" is homely but scientific advice of great value.

RESUME

A series of 1,434 primary verified skin cancers arising in persons living in Texas has been reported.

It has been found impracticable at the present time to obtain comparative figures on the incidence of similar tumors in Texas and Virginia or in any Southern State. Slight indications, however, based upon general knowledge and a few available records, show that the climatic conditions in Virginia have probably acted upon persons living there to produce few neoplasms of this type.

The cancers of the skin have been analyzed statistically upon a basis of sex, age, race; the nature, location, and duration of the lesions; previous and present treatment. The group of melanomas has been studied also as to mortality rate.

This study is part of the general program of cancer research in our nation and is made and recorded in the interest of accurate statistics with the hope that others may be stimulated to study special conditions existing in their own states.

606 North 9th Street.

DISCUSSION

DR. THOMAS W. MURRELL, Richmond: Dr. Phillips has offered you a paper showing a vast number of cancerous degenerations—in much greater number than we apparently have in Virginia. A great many of these, as he has shown you, are melanomas, things which have occurred from previous growths or warts; but this does not explain to him this enormous amount and he feels that it must be explained by the dry winds of Texas and particularly the solar radiation. If we are going to discuss this subject from the standpoint of solar radiation as the cause of this situation we obviously have to go back to the beginning rather than to the end of the picture which he is showing us. That takes us back, then, to those growths which we call keratoses, which are the beginning of trouble, and which are regarded as due to solar radiation. It is a common observation among the old clinicians that epithelioma was not found in the pure black Negro. I heard this myself over forty years ago from Dr. Hunter McGuire who said he had not seen a case of epithelioma in the pure black Negro. The Negro's skin is protected from the sun by his pigment and, further, his skin has a very large number of sebaceous glands, which keep the skin greasy. So the expectation would be that solar radiation would cause trouble in the directly opposite type of human being.

This is so, as pointed out by Pusey a number of years ago; the red-headed, blonde person who freckles easily is exactly the type of case in which we would expect solar damage and keratoses to develop. There is no essential difference between what we call senile keratosis or a keratosis due to solar radiation over a long period of time or the type of keratosis which you see on a surface which has received radiation or X-ray. These are the types of things which go into malignancy.

I have a quotation from Sutton and Sutton which I think is pertinent and which I should like to read. It is as follows:

"It is common usage to apply the name *precancerous* to individual lesions which are thought to be benign in their potentialities, as the large majority of them, collectively, indeed prove to be. However, innumerable intergradations exist between keratoses which peter out and drop off, keratoses which reach a certain stage of development and grow no further, keratoses which slowly progress until they infiltrate the dermis and continue to grow as obvious carcinomas, and keratoses which progress speedily from the start into swiftly growing squamous carcinomas. Therefore, and in view of the fact that no sound prediction can be made about any given lesion at the time of one's momentary examination of it, we find it satisfactory to ourselves to group the lot as epidermal neoplasms of various rates of growth. Their benignancy or malignancy is intimately associated with the rate of growth, as Mottram has proved. We define degree of malignancy as *time rate of doing harm*, a definition which makes the observer's knowledge of malignancy dependent on observations of a particular lesion over a period of time, rather than upon subjective opinions regarding the behavior of a lesion which it remains for the future to divulge."

DR. HILMAR R. SCHMIDT, Petersburg: I have spent a year and a half in South Dakota and then a short time in Texas. It struck me, without having any statistics, that there were an unduly great number of epitheliomas of the skin among the farmers of South Dakota. We know that the skin is exposed to sunshine and dust in the West and that, I believe, is a great cause for the frequency of skin cancer. I wish we could get statistics from the Northern States. In spite of the fact that Texas is hot, South Dakota and the Northern States have a great deal more sunshine in the summer, and I think the place for the study of skin cancer is in the Northwest, in the wheat fields. I am quite satisfied that Virginia would show a much smaller percentage than either of those two states.

DR. FRANK L. APPERLY, Richmond: Owing to the lateness of the hour I had not intended to say anything, but the last speaker brought up one point to which I wish to refer. It just happens that recently I have studied this subject from a statistical point of view, and will show you very briefly what the results were.

Obviously there are so many factors when you come to consider the various states that it is a very difficult matter to draw any conclusions. I have ruled out all states with 5 per cent Negro population or more. Then I tried to correlate that with the number of people exposed to sunlight. To get the figures, again, was difficult, so I took the percentage of population given as farmers and farm laborers. Of course the seaboard states have a number of fishermen, who have a notoriously high figure. But I took only farmers and farm laborers.

The doctor spoke about South Dakota. The South Dakota figures, as a matter of fact, are low. In this group are South Dakota, North Dakota, Wyoming and Minnesota—all in the cold group. The states can be divided into four groups according to average annual temperature. Obviously solar radiation has something to do with it. If you take the states in one group the number of skin cancers increases with the percentage of farmers and farm laborers. Or, if you do it the other way, the number of skin cancers increases as you go up the temperature scale. However, right down here were the two Dakotas, Wyoming, and Minnesota, as I mentioned. Here it did not seem to make any difference what the percentage of farmers and farm laborers was; there was no increase. Indeed, the skin cancer incidence fell with increased population exposure, just as the total cancer rate does. So it seems that the increase of skin cancers up to 1.2 per 100,000 population depends upon something else than solar radiation. Above that point the increase seems to be due to solar radiation.

EFFECT OF CHRONIC MORPHINISM UPON THE SYMPATHETIC GANGLION CELLS OF RABBITS.*

EVERETT H. INGERSOLL, PH.D.,
Medical College of Virginia,
Richmond, Virginia.

A study of the literature reveals little agreement concerning the effects of long continued use of morphine upon the nervous system of animals and man. In recent years investigators,[1, 2, 3, 4] working with rats, dogs or rabbits, found definite damage to the nerve cells which they attributed to the effects of morphine. Others[5, 6] found no demonstrable change in the nerve cells subjected to chronic morphinism. With these and other reports in mind, it seemed

*Aided by a grant from the Ella Sachs Plotz Fund.

profitable to continue the study of the effect of morphine upon the nervous system of rabbits.

METHOD OF INVESTIGATION

Ten Chinchilla rabbits were used. Six of these received daily subcutaneous injections of morphine sulphate (Merck) for thirteen months while the other four were used as controls. The initial dose of morphine was 25 mgm. per kgm. body weight, the amount being increased 10 mgm. per kgm. body weight every two weeks until each animal was receiving 155 mgm. per kgm. body weight. This dosage was continued through the remainder of the experiment. The diet consisted of Purina Rabbit Chow supplemented with green vegetables. The animals were examined daily and weights recorded weekly.

Three of the six rabbits receiving morphine were four months old and the others young adults at the study. The latter made an average gain in weight of 10 per cent and the former 18 per cent. One of the four months old animals (M4) made no gain during the course of the study. The four controls made an average gain of over 50 per cent in weight. The majority of the animals remained healthy throughout the experiment. The three younger morphine animals (M4, M5, M6) had mild skin infections of the external auditory meatus and adjacent auricle on one or more occasions and two of them were bothered with head colds.

At the conclusion of the experiment the animals were anesthetized with ether, the thorax opened and 10 per cent formalin injected through the first part of the aorta. The sympathetic ganglia were then removed and placed in a saturated solution of mercuric chloride with 10 per cent formalin. The ganglia were embedded in paraffin, sectioned at ten microns and stained with erythrosin and toluidin blue. At autopsy no pathology was noted except in rabbit M4 which had extensive subcutaneous caseous-like areas of a creamy appearance. Histological examination of important thoracic and abdominal organs revealed little of importance. Cloudy swelling of the liver and a mild degree of epithelial degeneration of the secretory tubules of the kidney were observed in the older rabbits of the morphine series (M1, M2, M3).

DISCUSSION

Sympathetic ganglion cells of the rabbit are readidly divided into three classes or groups.[7] The first class consists of cells with large, evenly distributed and generally closely packed Nissl granules. Cells of the second group have granules in a band or zone at the periphery of the cell. The third class of cells resemble the first in the distribution of Nissl granules but the granules are smaller and fewer in number (Figures 1, 2, 3).

Using this classification, differential counts were made of representative areas of the lumbar, celiac, thoracic and superior cervical sympathetic ganglia of all the rabbits. A total of 9,780 cells were counted and classified from the ganglia of the controls and 14,944 in the morphine series. A comparison of the results of this counting indicates that long continued injections of morphine have little effect upon the distribution of Nissl granules within the cytoplasm (see table 1). There are, however, more cells with a small amount of chromidial substance (class 3) and more exhausted cells in the ganglia of the morphine rabbits than in their controls.

The position or number of nuclei in each ganglion cell was recorded as the differential counts were made. These results are summarized in the last three columns of table 1. Ganglion cells with eccentrically-placed nuclei comprise at least one-third of all cells in both the control and morphine animals. These are frequently described as being indicative of disturbed cell function or of disease,[8] but no such conclusion is warranted from the results of the present study. The table also shows that the percentage of binucleated cells is higher than cells with centrally-placed nuclei and, since this is true for both the ganglion cells of the control and morphine animals, long continued injections of morphine apparently have little effect upon the number or position of nuclei in sympathetic ganglion cells of the rabbit.

Histopathological Cells: Many of the ganglion cells, especially in the morphine animals, exhibited some degree of injury. As shown in table 1 the number of such cells, exclusive of exhausted cells, varied from 2.4 per cent in the lumbar ganglia of the controls to over 25 per cent in the thoracic ganglia of the morphine rabbits. The percentage of exhausted cells was also lower in the ganglia of the controls than in the morphine series (Figures 4, 6). The most common type of cell injury was degeneration of the Nissl substance (Figures 7, 8). Although the distribution generally remained normal the gran-

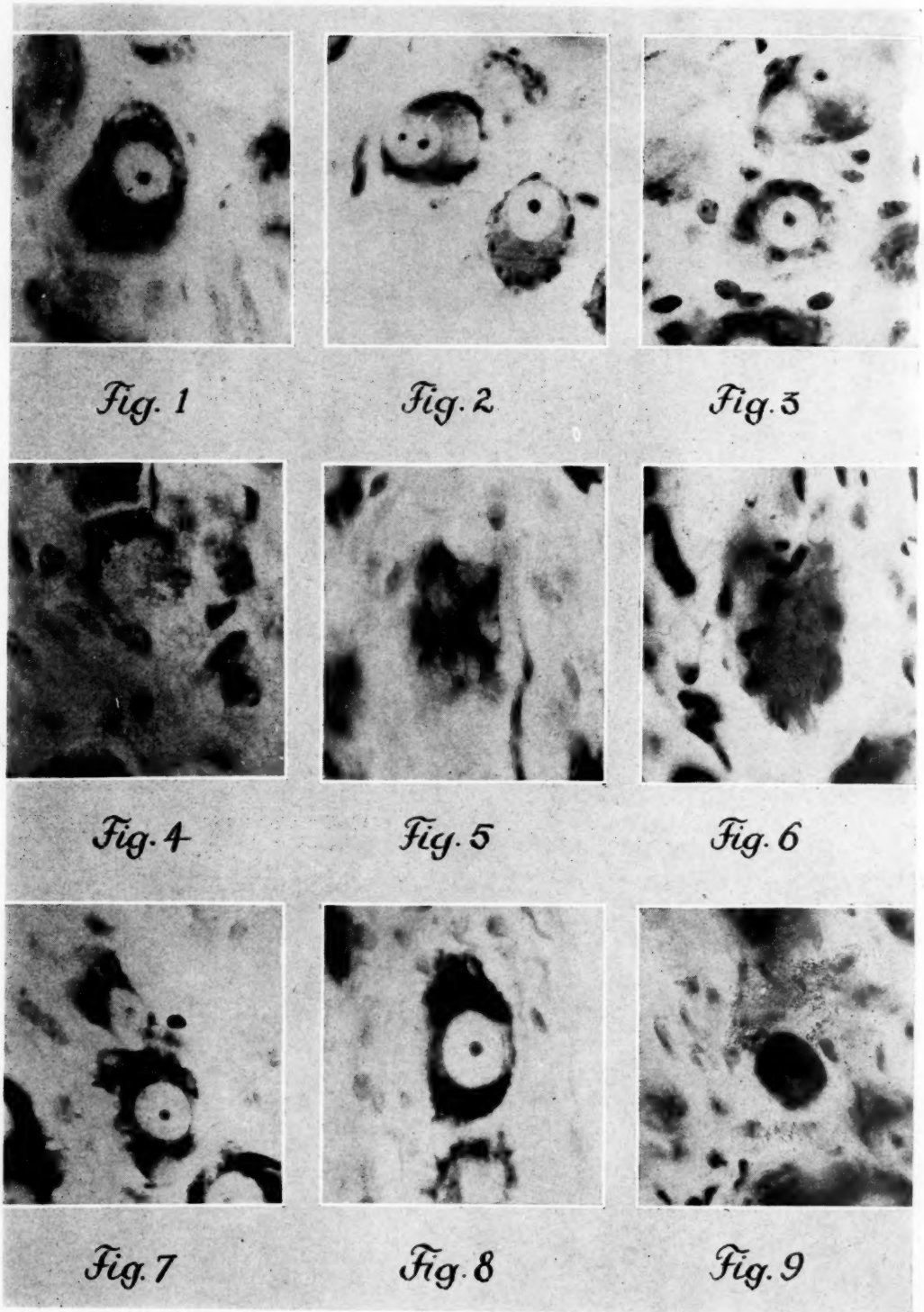


Fig. 1 Fig. 2 Fig. 3

Fig. 4 Fig. 5 Fig. 6

Fig. 7 Fig. 8 Fig. 9

TABLE 1.

Summary, in per cent, of differential cell counts.

GANGLIA	CELLS COUNTED	CLASS OF CELLS* 1	2	3	HISTOPATHOLOGICAL CELLS EXHAUSTED	ALL OTHERS	POSITION OR NUMBER OF NUCLEI* CENTRAL	ECCENTRIC	BINUCLEATE
				CONTROL SERIES					
Lumbar	2,047	28.2	57.8	13.8	0.2	2.4	27.0	37.8	35.0
Celiac	2,114	18.9	65.8	13.6	1.7	8.3	16.0	53.6	28.7
Thoracic	2,785	34.5	53.3	12.0	0.2	3.4	20.3	42.2	37.3
Superior Cervical	2,834	42.1	39.0	18.5	0.4	4.2	19.0	43.5	37.1
				MORPHINE SERIES					
Lumbar	3,645	41.8	36.9	19.2	2.1	17.2	32.3	32.7	32.9
Celiac	3,038	26.4	52.8	19.0	1.8	16.6	22.7	44.7	30.8
Thoracic	4,144	46.2	32.5	17.8	3.5	25.1	27.0	37.7	31.8
Superior Cervical	4,117	35.3	34.9	26.3	3.5	22.5	21.5	43.1	31.9

*Exhausted cells were not classified as to Nissl substance or nucleus.

ules of the cells affected presented a weak, washed-out appearance or stained a light homogenous blue. Cells with pycnotic or deep red staining nuclei were also common (Figure 9). Evidence of phagocytosis, vacuolation, cytoplasmic inclusions and cells with thickened capsules was found but was less frequent (Figures 4, 5, 6). The cytoplasmic inclusions appeared as small, pink staining bodies, round or irregular in shape and varying in number. Pigment was rarely observed and only in the ganglion cells of the morphine series.

A summary of the occurrence of the injured cells in the control and morphine series of rabbits is given in table 2. It is evident from these figures that the percentage of histopathological cells is over four times as great in the ganglia of the morphine animals as in their controls.

SUMMARY AND CONCLUSIONS

A study of the effect of morphine sulphate, administered daily for thirteen months, on the sympathetic ganglion cells of adult rabbits has been made. Using a classification of the ganglion cells based upon the size, amount and distribution of the Nissl granules it was found that the drug has little effect upon the distribution of the chromidial substance but that the number and size of the granules was reduced slighty in a small percentage of the cells. An analysis of the number or position of nuclei in the ganglion cell indicates that morphine does not affect the location of the nucleus within the cell or the number of cells with more than one nucleus.

The number of histopathological cells, as evidenced by exhaustion, phagocytosis, vacuolation, cytoplasmic inclusions, thickened capsules, pycnotic

TABLE 2

Summary, in per cent, of occurrence of histopathological ganglion cells.

GANGLIA	VACUOLATION	PHAGOCYTOSIS	THICKENED CAPSULE	CYTOPLASMIC INCLUSIONS	PYCNOTIC OR RED NUCLEUS	DEGENERATING NISSL GRANULES	EXHAUSTED CELLS	TOTAL OF ALL TYPES
Control	0.4	0.1	0.1	0.2	1.9	1.8	0.6	5.1
Morphine	0.8	0.6	0.2	0.2	4.4	14.5	2.9	23.6

EXPLANATION OF FIGURES

All photomicrographs were taken at the same magnification with 10-X ocular and apochromatic oil immersion objective and Eastman "G" color filter. All photographs from ganglia morphine animals.

1. Normal class 1 cell of superior cervical ganglion.
2. Normal class 2 cell, eccentric nucleus, of celiac ganglion.
3. Normal class 3 cell of celiac ganglion.
4. Exhausted cell with thickened capsule of superior cervical ganglion.
5. Vacuolated cell of superior cervical ganglion.
6. Phagocytosis of an exhausted cell of thoracic ganglion.
7. and 8. Degeneration of Nissl substance of thoracic ganglia.
9. Deep red staining nucleus of superior cervical ganglion.

or red staining nuclei and degeneration of the Nissl substance, was much larger in the ganglia of the morphine rabbits than in their controls.

REFERENCES

1. Wolff, Reed and Cobb: *Arch. Neurol. and Psychiat.*, 21, 1387, 1929.
2. Ma: *Psychiat. en Neurol. Bl.*, 38, 374, 1934.
3. Hayashi: *J. Orient. Med.*, 20, 28, 1934.
4. Weimann: *Ztschr. f. d. ges. Neurol. u. Psychiat.*, 105, 704, 1926.
5. Horning: *Am J. Path.*, 10, 219, 1934.
6. MacEwen and Buchanan: *Arch. Neurol. and Psychiat.*, 36, 112, 1936.
7. Ingersoll: *Am. J. Physiol.*, 117, 514, 1936.
8. Weil: A Textbook of Neuropathology, 1933, p. 31, Lea and Febiger, Philadelphia.

INTRA-CRANIAL HEMORRHAGE—DIAGNOSIS AND TREATMENT.*

THOS. N. SPESSARD, M.D.,
Norfolk, Virginia.

Intra-cranial bleeding is both a medical and surgical problem. It is a frequent complication in head trauma, but may occur spontaneously from an obscure etiological background. Every type of medical man occasionally encounters one of these cases and early diagnosis with establishment of appropriate treatment measures is essential to the life of the patient. Because of an increasing number of accidents involving injury to the head, and in view of the fact that an occasional review of a subject, even a familiar one, is at times helpful, I would like to present briefly a few remarks relating to the diagnosis and treatment of intra-cranial hemorrhage.

The problem presented by hemorrhage in the skull cavity is unlike that encountered elsewhere in the body. There is no concern with the total amount of blood lost by the patient but the entire diagnostic and therapeutic approach centers itself around the protection of vital brain tissue from pressure and destruction by the mechanical encroachment of hemorrhagic products.

The symptoms presented by these cases are those of increased intra-cranial pressure, a vain effort on the part of the brain to accommodate itself to the smaller space in the sharply limited and fixed boundaries of the cranial vault. The physical laws relating to the impossibility of two objects occupying the same space at the same time is the basis of all treatment in intra-cranial hemorrhage. The intra-cranial blood acts as a foreign body and must be removed if the brain tissue is to live and function in an orderly manner.

No mention will be made here of the intra-cerebral hemorrhage so frequently encountered in hypertensive vascular diseases—the so-called apoplectic stroke familiar to everyone. We will discuss the three clinical types usually associated with trauma to the head.

The chronic subdural hematoma, sometimes called Pacy's meningitis hemorrhagia, is by far the most frequent type encountered. Clinically it is the most difficult to diagnose.

The onset of symptoms is insidious in most cases. Careful questioning will frequently, but not always, disclose a history of trauma, but the absence of a history of injury does not eliminate the possibility of a subdural clot. This is especially true in individuals beyond middle age and chronic alcoholics. Medical and neurological examination of these cases is, as a rule, disappointing. The subjective symptoms are, in my opinion, of equal or greater value than the objective findings. If too much reliance is placed on reflex changes, motor paralysis, sensory findings, pupillary or fundi examinations, many of these cases will be mis-diagnosed. The spinal fluid examinations are also frequently of little value. As a rule it is clear and, surprisingly enough, shows no definite pressure increase on the manometer. In fact, the pressure is sometimes lower than average figures. This is not so surprising if we analyze the type of lesion, i.e., a large serous clot enclosed usually in a membrance of connective tissue. It may be that this material exerts a uniform pressure on the brain substance with a blending of surface tension on the cortex within and the dura without. This might account for the pressure findings even in large clots.

In the five cases I am reporting today, none had choked discs and in none of the cases was the spinal

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fluid pressure sufficiently elevated to be of diagnostic value. One of the five had a dilated pupil on the side of the lesion—a valuable aid but too infrequent to be depended on routinely.

Of the cases included in this study, four were on the left side and one on the right. This great preponderance of the left-sided subdural clots has been a universal observation. Redwood, in 1936, reported fourteen cases with eleven on the left, and Gardner reported a major percentage on the left in his series of cases. The reason is not definitely understood. This fact, that such a decided number involves the left cerebral hemisphere, is important in explaining the most characteristic diagnostic signs of these hemorrhages. The most valuable observation in these cases, in my opinion, is hebetude—slight confusion, lack of concentration and interest, tendency to be drowsy combined with headache. This general mental attitude, the lack of alertness and interest, slow cerebration in answering simple questions, following what was felt to be a trivial head injury, is to my mind a more valuable diagnostic criterion than are the findings on clinical or laboratory examination. This is not said to disparage the importance of a careful general study, but to evaluate each portion of the examination to its relative importance in the diagnosis. The greater portion of subdural clots, I believe, must be suspected on very little objective evidence. The head case which, while showing nothing alarming, is simply not doing well, the case which has improved steadily for a while and then becomes stationary in his progress, the case that is not losing ground, but simply not gaining—these are the types of patients who should be suspected of subdural hemorrhage. It is not sufficient to wait until the brain damage has become extensive with respiratory and cardiac embarrassment. At that stage a relatively benign condition has become exceedingly serious and at times hopeless. Early diagnosis is the key to a low mortality and absence of residual complications.

Of the cases I have had personally, four were men and one was a woman. The youngest was twenty-four; the oldest sixty-eight. There was a history of trauma in all cases, but in only one was the trauma sufficient for the patient to be hospitalized at the time of the injury: (1) This latter was a woman of thirty-four, who fell down a short flight of steps, striking her head, with a short period of unconsciousness. Her condition was never alarming. She showed no focal signs or increase in spinal fluid pressure. However, due to her failure to improve, the lack of alertness, a subdural was suspected and a large left subdural clot was removed by suction and simple trephine operation, three weeks after injury. (2) The patient of sixty-eight was a farmer who fell off a hay wagon, striking his head. He was not unconscious and continued to work the balance of the day and for over a month. He had no complaints but his family noted he was becoming confused, forgetful in his work and absent-minded. He finally consented to an examination and nothing was found on examination of focal importance. The history and picture of lack of alertness and mild confusion led to the diagnosis, and, due to mental symptoms and a percentage estimate, the left side was explored first and an unusually large subdural was aspirated. If no subdural had been found here, the right side, of course, would have been trephined also. (3) The case in which the diagnosis was rather difficult was that of the twenty-four-year-old patient. He was brought into the hospital with a low-grade temperature, some headache and drowsiness, and a diagnosis of encephalitis had been made by his attending physician. I could find no focal signs; spinal fluid pressure was 100 mm. H_2O, clear, and for the lack of a better diagnosis I was ready to agree with his attending physician. The patient and father denied any head injury, but, on questioning the mother, she recalled that the boy had had a black eye for two or three days, about six months previously. Closer questioning thus revealed that he had been in a scuffle while at work and had been struck in the eye, but was not knocked down and noted no discomfort. With this to go on, a subdural clot was suspected and operation disclosed a moderate sized left subdural hemorrhage. (4) Another case was more typical. A thirty-three-year-old man was struck over the head with a bottle three weeks previous to examination. Since then he had complained of headache and three days before admission became drowsy and semi-stuporous. When brought in he could be aroused with difficulty, pulse was slow and irregular and left pupil was dilated and fixed. He was operated on the same night and the expectation of finding a subdural clot was realized, the clot being on the left side. (5) The last case was a man of thirty-five who received a slight fall while at work with a slight laceration of the forehead. He continued to work but after three or four days his headache became more

intense. He could not concentrate on his work, and was confused but not drowsy. Neurological examination was normal. Spinal fluid pressure was normal. The history and present picture suggested a subdural and, in spite of the negative focal findings, an opening was made on the left side. No clot was found, but on a similar opening on right a small encapsulated blood clot was found underneath the dura and removed.

All of these cases showed a complete recovery with no mental or physical residuals. The personality changes in these post-operative patients within a period of a few hours is amazing. They become mentally alert, conversation and memory improve very rapidly, even in the course of a few hours. I know of no class of cases in which the prognosis can change from grave to excellent in so short a period. In proportion to the surgery required the results are very gratifying. There is no need to discuss the surgical technique other than to emphasize its simplicity in the usual subdural. I removed the clot in all these cases but one, through an ordinary trephine opening and by gentle suction. The other case had the same procedure followed elsewhere. In view of the simplicity of the procedure, it is certainly better to submit the possible subdural patient to an operation, than to allow any patient who may have a subdural hemorrhage to die without an exploration being performed. It may save a fatality; it certainly will not cause one.

Compared to subdural clots, the incidence of extra-dural hemorrhages is relatively uncommon. Redwood reported only four extra-dural hemorrhages in a series of thirty cases of intra-cranial bleeding. The progress of onset is much more rapid. The treatment as a rule is much more urgent than in other types. The history in most cases is typical and the diagnosis less difficult than in the subdurals. You are all familiar with the characteristic picture, which consists generally of a blow on the head, a short period of unconsciousness, then a period of recovery for four to six hours, followed by increased headache, onset of drowsiness, stupor, unconsicousness, and, unless immediate surgical measures are taken, coma and death following usually in the course of twenty-four to forty-eight hours from medullary compression. Out of eleven cases of intra-cranial hemorrhage, I have had only one case of extra-dural bleeding. The hemorrhage is usually from a rupture of the middle meningeal artery, and Coleman feels that most all of these are associated with a basilar fracture. My own feeling is that there are more of these cases than are recognized. Many are found at autopsy by the coroners, that should have been suspected and removed in the hospital. These cases are easy to diagnose from the newspapers. A man in an accident or fight received a blow on the head, states he is not badly hurt, goes home and during the night lapses into unconsciousness and dies. These preventable deaths are of extreme medico-legal importance, and recognition and early operation on these patients frequently means the difference between murder or manslaughter and an injury of considerably less import, not to mention the economic and humanitarian aspects. These cases are easily diagnosed if kept under close observation, but if not observed closely the diagnosis frequently comes too late to benefit the patient. These patients illustrate better than any other that any injury to the head must be considered serious until time and close observation have proved it otherwise.

In treating these cases a larger opening in the skull must be made than in the subdural type, because not only must the clot be removed, but also the bleeding vessel must be found and ligated or coagulated. If these cases are seen before pressure has been maintained over too long a period the operation and end-results are good. The only case of this type that I have operated on died. He was in extremis when brought to the hospital, being profoundly comatose, with respiration and pulse slow, weak and irregular. His history was typical. So urgent was the situation that no time was taken to scrub or boil the instruments, but only a quick washing in alcohol and bichloride was done. Skin incision disclosed even the skull itself to be vascular. Opening disclosed a large hemorrhage and, though it was removed and bleeding points cared for, he died about six hours later, though he seemed to show some temporary improvement. This case illustrates, to my mind, the point that the brain will stand a given amount of pressure, but when the pressure has passed a certain margin, even total relief of the pressure will not save the patient's life. What this margin consists of is probably a variable factor, but would certainly indicate the prudence of close observation in suspected hemorrhage cases.

The easiest type of intra-cranial hemorrhage to diagnose but the most difficult type to treat is the spontaneous sub-arachnoid variety. While they may

follow injury to the skull, the greater majority are spontaneous in origin. The etiology of this bleeding is obscure. Most textbooks mention syphilis as an important factor, but from my own observation and also in discussing this point with others, I doubt if syphilis is often a factor in the production of subarachoid hemorrhage. The consensus of opinion now seems to be that these hemorrhages are a result of a vascular anomaly, probably aneurism. This is certainly a possibility even if not a perfect explanation in some cases.

The symptomatology in these patients follows with some slight variations a close pattern. The age of the individual is not of much help, but as a rule the onset is as follows: The subject gives no prodromal symptoms of consequence and is seized suddenly with a severe headache at the base of the skull. There is rarely loss of consciousness at this stage, but vomiting frequently occurs; sometimes, but infrequently, it is projectile in type. Neck rigidity and positive Kernig's follow almost immediately after the onset of headache, and these patients three to four hours after the initial symptoms resemble closely the clinical picture of a moderately advanced meningitis. However, there is usually only slight temperature, and the pulse is slow and at times irregular. The blood pressure may be elevated, but is in most cases normal or even below normal. With this picture the diagnosis is fairly obvious, but is confirmed beyond doubt on spinal fluid examination. Unlike other types of intra-cranial bleeding, these patients show only general signs of increasing pressure and no focal signs are present. I have had, personally, only five cases of characteristic sub-arachnoid hemorrhages of the spontaneous type. I do not feel that finding of blood in the sub-arachnoid space following injury can be included in this classification, because any serious injury to the head practically always shows some blood in the spinal fluid, often of a transitory nature. The spinal fluid of spontaneous subarachnoid hemorrhage is grossly bloody, and persistently so throughout several tubes. The hemoglobin content varies from 10 per cent to 15 per cent and the RBC around 300,000 to 500,000. It is of value to get this data, because it is only in this way you can accurately determine the increase or decrease of blood in the spinal fluid. The manometric pressure of the fluid is high, 400 to 600 mm. H_2O being average figures.

There is considerable difference of opinion in the treatment of sub-arachnoid hemorrhage, the difference being mainly over the use of spinal drainage. I am in favor of spinal drainage in these cases, and feel that whatever good results I have obtained in treating this condition is due to its benefit. In addition, of course, the usual injections to increase clotting time were given and moderate dehydration was also used. I believe these cases should be drained often, and only a moderate amount of bloody fluid removed at each drainage. The pressure should be maintained at around 200 mm. H_2O and only a sufficient amount removed each time to reduce the manometric reading to this level. This is low enough not to embarrass the medullary centers and high enough to give sufficient back pressure to aid in stopping the bleeding point. This may have to be continued for days and at times for weeks, the number of drainages depending on the condition of the fluid and the patient's signs of pressure. Under this type of treatment four out of five cases have recovered, which, while only a very small series, is a very fortunate mortality in a condition in which the mortality varies from 50 per cent to 80 per cent. I expect to continue this method of treatment although in some clinics drainage is favored only as a method of diagnosis. Some think that drainage actually does these cases harm. My feeling is that the answer should be to drain in moderation, rather than drain too freely, or not to drain at all.

The five cases I have treated personally are of interest only as to the age variation. The youngest was a girl of eleven years, the oldest a woman of sixty-five years while the others were a boy of nineteen years, one a man of twenty-four, and one a man of thirty-eight. I have seen several other cases in consultation, but have not followed them sufficiently to know definitely the methods or results of treatment. These cases had fairly typical onsets, as mentioned above, and the diagnosis was readily made in all except the twenty-four-year-old man, where the diagnosis was delayed, but not missed, through the tendency to sometimes jump to conclusions. The latter patient was brought into the hospital, irrational and restless, pulse regular and slow, no temperature, by an excited young bride, who gave the history of an early morning quarrel. He left the house and started to his work at a lumber mill, but upon his return at noon told her he did not go to work, as he had a bad headache. After receiving some medication from a druggist he came home

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and went to bed. She then stated he began to groan with pain and became irrational with the result he was brought to the hospital. Without a very careful examination, a tenative diagnosis of hysteria was made with the expectation of a more careful study later. Three or four hours later the intern called that his pulse had dropped to fourty-six; respiration very slow and somewhat irregular with neck rigidity. On lumbar puncture, a few minutes later the typical findings of a spontaneous sub-arachnoid hemorrhage were found and after several weeks of moderate drainage a complete recovery was made.

The only patient who died was the oldest—the sixty-five-year-old woman—three days after the onset. The others had showed no residuals when last seen, one case three years after the original hemorrhage.

All intra-cranial hemorrhage cases require close observation, but none of them require the constant, tedious and protracted care of these sub-arachnoid hemorrhages. My feeling, however, is, if you will give them this attention, your results will repay you.

Thus, in a rather sketchy manner, are some of the points I believe worth consideration in a discussion of intra-cranial bleeding. These remarks are not an effort to present any standard methods of diagnosis or treatment of intra-cranial hemorrhage. No standardization is possible. Each case, as those in other branches of medicine, must be diagnosed and treated on its own merits and within its own individual indications. Intra-cranial hemorrhage occupies a place to itself, however, in medicine. The patient's chances of life depend on its proper diagnosis. I believe, therefore, that an occasional discussion of such an important subject is worthwhile.

Wainwright Building.

DISTRIBUTION OF VITAMIN B_6 AND FILTRATE FACTOR IN HOG LIVER.[1]

SARAH COVEY AND J. C. FORBES, PH.D.,
Department of Biochemistry, Medical College of Virginia,
Richmond, Virginia.

Since aqueous extracts of liver and alcoholic concentrates of the same are now used so extensively therapeutically, it was decided to study the combined distribution of two factors of the vitamin B_2 complex, namely vitamin B_6 and filtrate factor in such an aqueous extract. The starting material was a concentrated aqueous extract of liver of about 29° Baumé having a liver equivalence of approximately 10 grams per cubic centimeter. Two fractions were prepared from this aqueous extract. The first, and the one which contained the greater bulk of the original total solids is a fraction which is precipitated by an approximately 80 per cent alcohol concentration. This fraction is discarded in the preparation of parenteral liver extracts. The other fraction studied is one obtained by fractionating the 80 per cent alcohol soluble material with aqueous ammonium sulfate and alcohol, as described by Forbes and Peabody[1] and is known to contain a high concentration of the pernicious anemia curative material. Since the greatest concentration of alcohol used in its preparation was approximately 80 per cent, it is referred to in the subsequent discussion as the 80 per cent alcohol soluble material.

EXPERIMENTAL—The distribution of the accessory factors in the different preparations was determined by studying the effect on the growth of rats, of feeding these supplements in addition to a diet containing all of the other essential factors required by the rat. The basic diet had the following composition: Sucrose 56 per cent, purified casein, Labco brand, 27, Butter fat 9, Salt mixture 4, cod liver oil 2, and agar 2 per cent. Crystalline thiamin chloride 15γ and crystalline riboflavin 50γ were fed daily in aqueous solution to each rat by means of a pipette.

PREPARATION OF MATERIALS—The 80 per cent alcohol soluble material was used in the studies without further purification but the 80 per cent insoluble material was dissolved in water and reprecipitated three times with three volumes of alcohol in order to remove extraneous materials. The experimental results obtained on feeding these fractions at several liver equivalencies are shown in Tables 1 and 2.

DISCUSSION—From the results here presented it will be seen that a large percentage of the total B_6 and filtrate factor present in hog liver is in a form insoluble in 80 per cent alcohol. Roughly speaking, the results indicate that about 60 per cent is in this

TABLE 1

Combined B_6 and filtrate factor in the 80 per cent alcohol insoluble material.

Daily liver equivalency fed, grams	Average gain in weight in 6 days	12 days	18 days	Average daily gain, grams
0	2	3	5	0.3
10	15	33	53	2.9
15	23	46	72	4.0
20	25	54	74	4.1
25	24	50	75	4.2

TABLE 2

Combined filtrate factor and B_6 in the 80 per cent alcohol soluble material.

Daily liver equivalency fed, grams	Average gain in weight in 4 days	10 days	16 days	Average daily gain, grams
0	2	3.3	5.0	0.3
15	10	32	56	3.5
25	18	46	64	4.0

form. It must be realized, however, that the data represent only the combined growth promoting action of the different fractions. They are not a measure of the individual concentration of the two factors. Data not presented in this paper indicate that the limiting factor in the 80 alcohol insoluble fraction is filtrate factor and not B_6 while the opposite seems to be true in the case of the 80 per cent alcohol soluble material. Since frozen livers were used in the preparation of the original extract it is probable that the percentage of these factors soluble in 80 per cent alcohol is greater than actually occurs in absolutely fresh liver. The fraction insoluble in 80 per cent alcohol is undoubtedly in a conjugated form, as it has already been shown by Kuhn and Wendt[2] and Birch and Gyorgy[3] that B_6 occurs to a considerable extent in a conjugated condition.

The amount of B_6 and filtrate factor lost in the aqueous ammonium sulfate layer in the preparation of the 80 per cent alcohol soluble material, although not determined, must have been very small. From consideration of the results obtained with the two fractions studied, it will be seen that on this basis a daily liver equivalency of approximately 10 grams should give normal growth. Actual experiments with the crude aqueous extract used as starting material for the preparations showed an activity per gram of liver comparable to the above estimated value.

Although the clinical significance of these vitamins is still unknown one can quite safely conclude that important nutritional materials are thrown away when the 80 per cent alcohol insoluble material is discarded in the preparation of oral liver preparations, especially since this fraction is also known to contain a large percentage of the riboflavin content of liver. The importance of riboflavin in human nutrition is now generally recognized. It is also of considerable interest that dogs, as shown by Fout, Helmer, Lepkovsky and Jukes[4] on a vitamin B_6 deficient diet develop an anemia which is cured by the administration of a rice polish extract containing B_6 but not by iron administration.

SUMMARY—The fraction of aqueous liver extract insoluble in 80 per cent alcohol has been shown to be high in vitamin B_6 and filtrate factor. It is known that a large percentage of the B_6 and riboflavin content of tissues is a conjugated form; the present results indicate that this also may be true of filtrate factor. The fraction of B_6 and filtrate factor soluble in alcohol can be conveniently concentrated using the method previously described by Forbes and Peabody for the preparation of an antipernicious preparation.

We are indebted to the Valentine Company, Inc. for the concentrated aqueous liver extract. The riboflavin used was kindly supplied by Merck & Company and Vitab Products, Inc.

Presented by one of us (S.C.) in partial fulfillment of the research requirement of the degree of Master of Science.

BIBLIOGRAPHY

1. Forbes, J. C., and Peabody, W. A.: *Virginia Medical Monthly*, 65, 151, 1938.
2. Kuhn, R., and Wendt, G.: *Berichte*, 71B, 780, 1938.
3. Birch, T. W., and Gyorgy, P.: *Biochem. J.*, 30, 304, 1936.
4. Fouts, P. J.; Hilmer, O. M.; Lepkovsky, S., and Jukes, T. H.: *J. Nutrition*, 16, 197, 1938.

ENDOCRINOLOGY BRIEFS.

The Thyroid Gland.

JOHN P. LYNCH, M.D.,
Richmond, Virginia

Thomas Wharton in 1659 first accurately described and named the thyroid gland. In 1891 Murray discovered the curative effect of thyroid gland substance on myxedema. In 1895 Baumann found that iodine was a normal constituent of the thyroid gland. In 1927 Harrington synthesized thyroxine which is the active iodine compound of the gland. He showed that 40 per cent of the iodine is in this form and 60 per cent inactive as diiodotyrosine.

PHYSIOLOGY

The thyroid may be influenced by the pituitary but there is no definite proof in human beings. This influence is probably neuro-hormonal in nature. The thyroid gland is responsible for the following functions:

1. Maintenance of the process of normal metabolism, *i.e.* oxidation of foodstuffs and liberation of energy. The site of this is not known but apparently all tissues are affected. The specific dynamic action of the cells arises from the thyroid.

2. Maintenance of the normal irritability of the nervous system.

Thyroxine, the active principle of the thyroid enhances the effect of epinephrine and *vice versa*.

HYPOTHYROIDISM

Cretinism. This is a state of thyroid deficiency in early infancy characterized by delayed mental development, dentition, bone growth, a thick tongue, coarse features and a low basal metabolic rate. It is more frequent in endemic goitrous regions. The treatment consists of giving desiccated thyroid, U.S.P., on the average from two to six grains daily. Cod liver oil should be added for its vitamin content. In 1938 a French worker reported the successful transplantation of a thyroid gland from an executed criminal to the rectus muscles of a two and one-half-year-old cretin. Twelve years later the child was about eight or nine years of age in development but otherwise quite normal.

Myxedema. The adult hypothyroidism or myxedema is characterized by gain in weight, dry skin, coarse hair, feeling of chilliness, sluggishness both mental and physical, bradycardia, and low basal metabolic rate, menorrhagia or amenorrhoea. The blood cholesterol is usually elevated in hypothyroid states and, unless hypercholesteremia is found, the diagnosis is not secure. However, the finding of a low blood cholesterol does not necessarily indicate hyperthyroidism, nor does a normal blood cholesterol argue against this diagnosis. Treatment consists of desiccated thyroid from one to three grains, U.S.P., or more, daily. The patient's symptomatic response is more significant than basal metabolic rate checkings. The smallest amount of thyroid for maintenance of health is the goal here where in cretinism the maximum amount compatible with comfort is desirable. Thyroidium siccum, U.S.P., or desiccated thyroid, U.S.P., contains between .17 per cent and .23 per cent iodine per gram of dried substance. It is quite stable, being kept as long as thirty-two years without loss of potency. It is just as satisfactory and cheaper than thyroxine.

It is well here that we make clear the wide differences in strength in thyroid preparations manufactured by different drug houses. Thyroid, U.S.P., is probably preferable and its routine use avoids confusion.

DOSAGE COMPARISON TABLE

BURROUGHS WELLCOME		ARMOUR, SQUIBB, LILLY, SHARPE & DOHME		PARKE, DAVIS
gr. ¼	=	U.S.P. gr. 1/10		
gr. ½	=	U.S.P. gr. 1/5		
gr. 1	=	U.S.P. gr. 2/5		
gr. 2½	=	U.S.P. gr. 1		
		U.S.P. gr. 1½	=	gr. 1
gr. 5	=	U.S.P. gr. 2		
gr. 7½	=	U.S.P. gr. 3	=	gr. 2
gr. 10	=	U.S.P. gr. 4		

SIMPLE GOITER

According to Marine the cause of simple goiter is a work of compensatory hyperplasia secondary to a relative or absolute iodine deficiency. Prophylaxis is obtained by the use of one to five mgm. of iodine weekly or by using syrup of hydriotic acid, one to two cc. daily, for a month during autumn and spring. Sodium or potassium iodide are equally effective.

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Probably the best and simplest general prophylactic is iodized salt, one part in 100,000 used as table salt. It must be realized, however, that the dosage will be highly variable and where actual iodine deficiency in a given individual is known the above accurate method is preferable.

HYPERTHYROIDISM

This review of necessity is too concise to entertain a discussion of the varieties of thyroid overaction. Suffice it to say that Graves' disease and toxic adenoma, the two principal types, are probably related and may represent but different phases of a similar fundamental process. The cause of hyperthyroidism is unknown but it is thought by some workers to be the evidence of a thyroid response to a pituitary gonadal hormonal defect. The following may act as predisposing factors: Environment, heredity, social status, diet, pregnancy, and infections. The most important, according to recent writers, is an hereditary predisposition to hormonal imbalance.

The classical symptoms are goiter, tachycardia, exophthalmos, tremor, weight loss in spite of increased appetite, nervousness, increased heat sensations, quadriceps weakness, increasing perspiration, and insomnia.

The diagnosis is based on the finding of part or all of the above symptoms and signs, and the elevation of the basal metabolic rate. One single basal metabolic rate reading is not conclusive and a knowledge of many sources of technical error should be understood in the evaluation of the test. Unfortunately, there are no recent advances in laboratory tests. The iodine tolerance test can be used only in specialized laboratories and thus it has not become of general use enough to make certain its value.

There are three methods of benefit in the treatment of hyperthyroidism: Medical, surgical, and by irradiation:

Means in the 1939 "Year-Book of Endocrinology" states that iodine should head the list of nonsurgical therapeutic procedures for toxic goiter. Iodine metabolism is increased in hyperthyroid states. The supply in the gland becomes depleted. This in turn calls for greater activity on the part of the thyroid gland, increased iodine metabolism, and thus a vicious cycle is set up. Iodine temporarily diverts the thyroid to storage of its hormone in the acini with less release into the circulation and a subsequent subsidence of symptoms occurs. Iodine can be used as treatment *per se*, as a preoperative preparation, and diagnostically when the symptoms of thyrotoxicosis are in doubt. Three to five or ten minims Lugol's solution three times daily is the usual dose. Vitamins A and B are valuable in building up the general nutrition. Liberal carbohydrate feedings are particularly valuable as protection to the liver and in furnishing ready calories for the increased metabolic needs. Sedation with phenobarbital, one-half grain, three times a day, is valuable in the medical treatment as well as in the preoperative preparations for thyroidectomy.

Medical treatment is unreliable and frequently merely a temporizing measure. Thyroidectomy is almost inevitable for most hyperthyroid states. Preoperative medical care under both the physician and the surgeon has improved results and made thyroidectomy in experienced hands a relatively safe procedure. The regimen of lugolization and sedation as above described is carried out for about ten to fourteen days or until a level of clinical improvement and basal metabolic rate readings has been reached. At this optimum time the operation is performed. If, for some reason, this time is passed the iodine may have to be discontinued for two to three weeks, and then the whole process begun again. A state of iodine refractoriness may occur after a prolonged use of the drug. It is, therefore, unwise to use iodine symptomatically when surgery is contemplated unless all arrangements are made for careful observation in cooperation with the operating surgeon.

Davison and Aries reiterate with further experimental support the contention that postoperative iodine administration is without benefit, although this procedure is still generally used. Means has clearly shown that iodine has no effect on thyroxine after it has been liberated from the thyroid. The effect must operate on the gland itself. Thus, according to these writers, when most of the gland has been removed little is to be accomplished with iodine. The fundamental cause of symptoms of the so-called thyroid crisis is probably cardiac and hepatic damage. Adequate carbohydrate and fluid intake are the important essentials of postoperative management. Oxygen administration is another valuable adjunct

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for sparing the heart muscle and in several institutions is a routine postoperative procedure.

There is still some question in the minds of investigators regarding the efficacy of radiation therapy. In selected cases it is of value but even here disappointment is not unusual. Its chief use is in patients who are inoperable for various reasons or who have recurrences and refuse further surgery.

1000 West Grace Street.

EDITOR'S NOTE: Fifth in a series of brief summaries of our present knowledge of a rapidly changing field of diagnosis and therapy.

SERUM REACTION IN PNEUMONIA THERAPY WITH CASE REPORT.

B. S. YANCEY, M.D.,
Harrisonburg, Virginia.

In recent years there have been rapid and radical changes in the treatment of pneumonia with the resultant lowering of the mortality rate. Oxygen therapy, diathermy, and specific serum therapy all have their place in the treatment. Unquestionably, specific serum has lowered the rate more than any other form of treatment. With the general availability of typing stations, the use of serum has become very widespread, and, along with this increase in the use of serum, there will be an increasing number of serum accidents and reactions. In the field of chemotherapy, sulfapyridine has shown remarkable bactericidal as well as a bacteriostatic action on pneumococci of most of the types, and this drug will probably prove to be of great value not only in lessening of the mortality rate but also a drastic shortening of the period of disability. Unfortunately, it has not been used for a long enough period of time to draw any accurate conclusions as to its real value.

Specific serum when given under the most favorable conditions is always attended by a certain danger from serum reactions. This is especially true in pneumonia serums where it is frequently necessary to give large amounts intravenously. The widespread use of horse serum for many conditions often leads to severe reactions. The ease of administration coupled with the dramatic cures in pneumonia results in the administration often without due thought as to the probability of serum diseases. It is essential that all of our present tests for serum sensitivity be used carefully before the serum is administered, and often in the face of negative tests we receive severe reactions.

Serum reactions are given a rather general classification[1, 2, 3]:

(I) Serum sickness.
  a. Immediate.
  b. Delayed.

(II) Accelerated reactions usually following a recent injection of serum.

(III) Allergic or atrophic. These reactions are usually severe and dangerous.

I will not go into detail as to the symptoms of these various reactions except to state that in the first classification the reaction may come on within a few hours to several weeks and this type of reaction is usually not fatal although severe manifestations may follow the use of unconcentrated sera.

The serum reactions are not related to the curative power of the serum but are probably due to proteins in the serum, and in addition, the mode of administration may at times play an important role. The character of the serum has some influence on reactions in that whole raw serum causes more reactions than purified globulins.[2] Intravenous and intraspinal are more likely to cause severe reactions because of the rapid contact and union of antigen and antibody.

Prior to the administration of any serum, the physician should first use all available tests to determine any sensitivity of the patient to that particular serum.[9] There are four procedures which must carefully be carried out:

(a) A careful history to determine any condition suggestive of allergy (hay-fever, eczema, etc.).

(b) The intradermal test, first using 1:100 dilution and if this is negative then 1:10.

(c) Ophthalmic test.

(d) In giving serum intravenously or intraspinally, give a small test dose injected very slow and if this is not followed by any undue symptoms, then proceed with the remainder of the dose.

It is always advisable to have available adrenalin in order to combat any unforeseen reaction. In the delayed reactions, the use of calcium[1, 4] has been advocated in treatment. It has also been suggested that

calcium could be given as a prophylactic prior to the injection or before a delayed reaction occurs. There has not been enough work done on this to justify any final estimate of its value.

Pneumonia serum is available in most types in both rabbit and horse serum. It has been the experience of the writer that rabbit serum has given less reaction yet I do not feel that enough cases have been reported to advocate the use of this entirely in place of horse serum. The value of rabbit serum is probably due to the following factors: less reaction (?); greater concentration; greater penetration. So far, in the cases in which rabbit serum has been used, I have not had any reactions, either immediate or delayed. If rabbit serum does result in fewer accidents, it may possibly be due to the fact that a large number of patients have previously received horse serum for some other condition. The various kinds of serum—pneumococcus, tetanus, scarlet fever, meningococcus—apparently do not play any role in the production of reactions, although several authors have claimed a greater frequency with one or the other.

The following case is interesting not only from the standpoint of the extremely severe thermal reaction but also from the rapid clearing up of the pneumonic processes:

Lillian Z., white, female, age twelve, was admitted to the Rockingham Memorial Hospital, March 6, 1939, complaining of severe headache, pain in both sides of chest, and fever. The admitting diagnosis was lobar pneumonia.

Family history: The mother, far advanced active tuberculosis, living at home. It is of interest to note that within the past six years all of the family have had many acute illnesses, all of them extremely severe, but there is nothing to indicate any history of allergy in the family.

Past history: Usual childhood diseases, ruptured appendix two years ago, has always been underweight, and no history of any allergic condition could be obtained.

Present illness: Complained of nausea, vomiting, and a slight head cold two days prior to admission. On the morning of admission, there was a sudden severe pain in right side of chest followed by a chill. The pain rapidly increased, there was some blood in sputum and, about twelve hours prior to admission, she was irrational. She was first seen about 5 P. M. at her home. The diagnosis of pneumonia was made and she was admitted to the hospital at 9:30 P. M.

Physical examination: Negative except as follows: Pharynx acutely inflamed, tonsils enlarged and cryptic, respiration 45, and there is an area of dullness over the lower lobe of right lung, tubular breathing over this area and many moist rales, increase in voice conduction, and the left lung is apparently not involved except for harsh breathing over lower lobe. The sputum is blood-tinged but not copious, and she appears to be suffering acutely when coughing. However, I could not hear any friction rub.

White count: 27,200. 92 per cent PMNs. 8 per cent lymphocytes. The sputum showed pneumococcus Type I. Blood culture was later returned negative. Temperature on admission was 104.4°, pulse 140, respiration 40.

At 10:30 P. M., intradermal and ocular tests were made with horse serum. These were entirely negative. At 11:05 P. M., 20,000 Units of pneumococcus Type I (horse serum) was given intravenously. There was no immediate reaction. At 12 midnight, I was called and told that the patient was dying. When examined at this time, the child was practically pulseless, a deep grayish color over the entire body and she was in a deep coma. Respiration at that time was very perceptible, the heart sounds extremely distant and feeble. The temperature was 109° (rectal), and this was re-checked several times with different thermometers. Stimulants were given with only slight response. Oxygen and CO_2 were given and there seemed to be some improvement. At 1 A. M., the color had decidedly improved, respiration somewhat deeper but still too irregular and shallow to count. The temperature was still 109°. At 2 A. M., the temperature had dropped to 104°, her general appearance was decidedly better and there appeared to be a decided improvement in the breath sounds over the affected side. The muscles of the arms and legs were very spastic. One hour later the temperature had dropped to 102.8°. At 4 A. M., the temperature was 101°, respiration 32, pulse 120. She was extremely restless, but it was felt that she was out of danger and at 8 A. M., she was seen again and at this time a careful examination of the chest did not reveal any abnormal breath sounds or any other pathology except slight harshness to the breath sounds and an occasional scattered rale over the right side. Respiration 28 and temperature 100.4°. There was marked vomiting and semi-delirium. By

XUM

noon of this day, there was apparently a complete clearing of the physical findings in the lung. Following this, the patient continued to have marked vomiting. For several days she was extremely restless and unable to orient herself. On the night of March 7, she had a very severe nasal hemorrhage and lost a large amount of blood. Calcium gluconate was given and the nose packed. The vomiting continued until the evening of March 8, at which time she was given a glass of water with a teaspoonful of sodium chloride. This was retained and sodium chloride was placed in small amounts in all of her drinking water. On March 10, she developed marked urticarial lesions over the entire body which disappeared the following day. From then on she made an uneventful recovery and was discharged as recovered on March 19.

The following notation was made on the history: This case is unusual due to the rapid response to the pneumonia serum and the excessively high elevation of temperature.

Horse serum was used as rabbit serum was not available in Type I at the time. The progress notes show in detail the effect following the administration of the serum intravenously. It is questionable in my mind as to whether or not the severe and almost fatal reaction was due entirely to a serum reaction. It must be borne in mind that by our accepted tests both ocular and intradermal, she was not sensitive to horse serum yet she had an almost fatal response following the serum.

I cannot help but feet, considering the extremely rapid clearing up of the lung pathology, that we might possibly be dealing with an overwhelming liberation of toxin following the administration of serum and that this might be playing a large part if not be the entire cause in the severe reaction.

Additional serum was not given as the physical findings did not justify it and I was fearful lest we should have another reaction.

The use of ordinary table salt in drinking water which apparently immediately controlled vomiting is I believe unusual.

Another thing that is of interest is the family history of extremely severe response to any illness yet so far none have had any fatal terminations. It is a most unusual family in regard to illness. Everything is always severe yet there is no evidence of any neurosis in the family. I have attended them all and in every case the unusual always occurred.

I feel that this case well illustrates the dramatic results encountered in the use of anti-pneumococcic serum of a specific type, yet it is my opinion that we will probably see the same dramatic results obtained with sulfapyridine without the almost fatal reaction that almost occurred in this case. This reaction, as far as I could determine, could not be foreseen. It is the writer's opinion that, with the increasing general use of serum therapy for many varying conditions, we will eventually develop an increasing number of individuals who will develop a sensitivity to serum. In addition, if chemotherapy fulfills its present promise, there will be a widespread use of this form of treatment especially in the rural districts with a corresponding decrease in the use of serum. It must be borne in mind, however, that there are severe toxic reactions from the use of this drug. The ideal treatment at this time is probably a combination of serum therapy with sulfapyridine.

REFERENCES

1. Fantus: *Journal A. M. A.*, November 21, 1936.
2. Black: *Texas State Journal of Medicine*, August, 1937.
3. Criep: *Medical Bulletin of U. S. Vet. Adm.*, October, 1932.
4. Curphey and Solomon: *New England Medical Journal*, January 23, 1936.
5. Chavany and Ashenazy: *Gaz. Med. de France*, April, 1936.
6. Coons and Kirk: *Ohio State Medical Journal*, April, 1939.
7. Calloman: *Penn. State Medical Journal*, January, 1938.
8. Sutliff: *Illinois Medical Journal*, December, 1937.
9. Hensel: Minnesota Medicine, October, 1937.
10. Benjamin, Blankhorn, *et al.*: *Annals Internal Medicine*, September, 1937.
11. Horsfall, *et al.*: *Journal A. M. A.*, May 1, 1937.
12. Bullowa and Greenbaum: *Archives Internal Medicine*, August, 1937.
13. Anglin and Brown: *Canadian Medical Association Journal*, April, 1937.

THE KLIPPEL-FEIL SYNDROME.

HENRY G. HADLEY, M.D.,
Washington, D. C.

This symptom complex of short neck, growth of the hair low down on the neck, and limitation of head movements which now bears the name of the Klippel-Feil[1] syndrome is found with congenital anomalies of the cervical spine.

These defects are quite common and are classified by Putti[2] according to whether they are numerical or differential variations. Klippel and Feil, in 1912, described a case having an unusual appearance which died of uremia, the autopsy of which disclosed a cervicodorsal mass of 6 cm., including four pairs of ribs and four transverse processes with an extensive spina bifida. Von Recklinghausen[3] was the first to call attention to the associated defects of spina bifida by his case with hypertrichosis and club foot.

The morphological changes may be a partial or total fusion of two vertebrae, or a deformed vertebra which may be wedge-shaped or with hemiatrophy. There may be a transverse segmentation of the vertebral body or a basal segmentation of the odontoid process. Spondyloschisis with or without spondylolisthesis may be present and spina bifida anterior may be present in any degree up to a complete rachischisis. Spina bifida posterior is very common with or without the presence of the spinous processes.

Supernumerary transverse processes and spinous processes are occasionally found. Fusion of the vertebra was first noted by Goodhart.[4] Bertolotti[5] demonstrated an example of a double-crossed hemi-vertebra due to a vertical median segmentation. The presence of a hemi-vertebra is a proof of the actual separate development of the two lateral halves of the spine. There may be a hemiatrophy causing unequal development of the two halves of a vertebra forming a wedge-shaped vertebra with the base on one side. Transverse segmentation may occur, which is a grave morphological aberration accompanied by other spinal anomalies.

Spina bifida anterior is a division of the bodies into two parts in the median line causing a more or less unequal development and favoring an anterior curvature of the spine. This tends to produce a fusion of the vertebral bodies and as the separation is generally unequal, a lateral cervicodorsal curvature results. Spina bifida anterior affects the cervicodorsal region and accompanies cervical ribs and scapular anomalies. Spina bifida posterior is a lack of closure of the posterior arcs often associated with a fusion of the vertebra and by defects in their development. There is less resistance in the cervical spine as they are more fragile and also because the centers of cervical ossification appear later.

Clinical Examination: The typical appearance shows a low hair line, the absence of the neck and the limitation of head movements. The chin is not easily lowered below the horizontal. In lateral movements, the head is deviated to one side and rotation is so insignificant that when looking laterally, the body must be turned completely. The opening of the mouth is so restricted that X-ray examination of the intermaxillary space is hindered. Angular scoliosis of the lower cervical and cervicodorsal area is frequent. A second clinical group comprises spina bifida anterior with cervical ribs. Here the spina bifida usually extends from the third cervical to the fourth dorsal vertebra resulting in a lateral cervicodorsal curvature and often coexisting with cervical ribs and hypertrichosis. The development of the vertebrae is delayed and the clinical manifestations, therefore, may not appear until the second decade of life.

A distinct group is where the cervical ribs are the principal anomaly and the accessory anomaly a spina bifida. Here scoliosis is prominent and the head inclined to one side with vascular symptoms and nerve disturbances appearing later, such as pains in the brachial plexus.

Cervical ribs are frequently found if compression is present, vascular signs and nerve phenomena of the radicular type giving sensory and trophic lesions. A single or a double elevation of the scapula, which is the Sprengel's deformity, is a common associated abnormity.

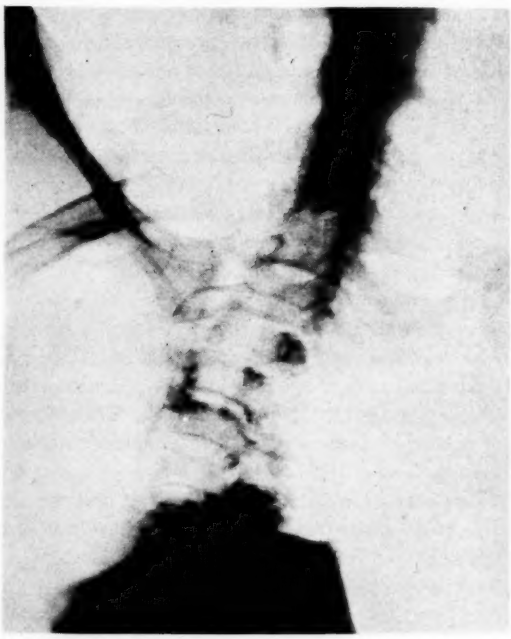
The cervical region is the frequent seat of a second important anomaly of differentiation, the fusion of the atlas and the occiput.[6] This fusion may be total or unilateral and frequently coexists with the opening of the posterior arc of the atlas. There is apt to be more atrophy and deformation of the fused side of the vertebra. This deformity gives more disturbance to the cranio-vertebral equilibrium than the

simple defect of regional assimilation. The asymmetrical appearance is similar to that of torticollis. Pott's disease or vertebral arthritis may be confused as similar symptoms are produced in such cases. Plagio-cephaly is an unsymmetrical and twisted condition of the head produced by a closure of half of the coroneal suture.[7] The basilar impression of Virchow[8] where there is a depression of the base of the skull with consequent facial asymmetry and interference with the cranial nerves and other pressure symptoms results from the ascent of the condyles and the consequent depression of the surrounding bones. The basilar impression is a signal for an X-ray examination. Muscular and nerve lesions together with facial asymmetry are found with these anomalies of development at the cranial base. Cervical ribs and associated lesions such as facial asymmetry with scoliosis may coexist. The asymmetry of the skull may result from the asymmetrical influence of the neck muscles. A special form of congenital scoliosis was called by Schulthess[9] the "caput scoliosum".

A complete X-ray study is essential for the exact diagnosis for the deformities of the spine. Some cases give unusual difficulties because the deformity prevents the patient from lying in the ideal positions. Anterior oblique films, both right and left, are taken at the level of the fifth cervical and an anterior posterior film through the mouth held upon by a cork.[10] The cephalic extremity and its articulation giving a complete image of the atlas can be radiographed through the nasal cavity or anterior posteriorly with the central ray one cm. above the point of the nose and the lateral view through the center of the lobe of the ear.[11] The distal extremity is best taken by an anterior posterior film through the center of the first dorsal. The remainder of the spine should also be radiographed to find if associated abnormalities are present, as various forms of numerical and morphological anomalies may be found as well as those of differentiation.

The typical Klippel-Feil syndrome is due to a numerical reduction of the cervical vertebrae. With this may be associated a spina bifida anterior which causes usually a cervical dorsal curve with the convexity generally to left and with a sharp inflection at the summit. This produces a lateral inclination of the head and a reducible elevation of the shoulder.

Spina bifida posterior usually causes an abnormal neck having an inclination of the head to the side and an elevation of the corresponding shoulder. The movements of the head are somewhat limited but without pain, although pressure pain may be present at the level of the abnormal vertebra. An atlas-occipital fusion often presents a form resembling spasmodic torticollis if the disturbance is asymmetrical, or if symmetrical, resembling Pott's disease.



Mr. I. R.

Pathologically, there is a sinking and diminution in the number of the cervical vertebrae with more or less fusion between them and occasionally a complete fusion with several vertebrae forming a cervicodorsal mass. This produces a cervical fusion as the cervical vertebra are shorter and the thorax is more elevated.

In the clinical study, the shortness of the neck bears a relation to the gravity of the malformation and the head in severe deformities appears to repose directly on the trunk. The low implantation of hair is in proportion to the degree of the malformation and age of the subject. A round back may be present due to the absence of or alternation of the normal

Mrs. C. B.

cervical curve. Accessory signs are scoliosis, disproportion of the length of the arms and the trunk due to the settlement of the upper dorsal area, and low placement of the ears; mammary acoelia are lower than normal because of the cervical thorax and there is ascension of the skeleton in relation to the skin. An elevation of the scapula is a very striking accompaniment to this syndrome.

The X-ray study shows a cervical settling varying in degree and in severe grades with the thoracic cage joining the base of the skull, causing the neck to appear absent. The insertion of the ribs is elevated in the rear; therefore, the direction of the ribs is more oblique and the clavicle abnormally inclined.

Mrs. C. M.

The sternal articulation is projected in the rear at the level of the fifth or sixth rib instead of the normal position of the third. A basilar kyphosis is present where there is a malformation of the first right cervical and exaggerated descent of the posterior cerebral fossa. Usually with this reduction in the number of the vertebrae with fusion and maldevelopment, there is a spina bifida occulta.

REPORTS OF CASES

Mr. I. R., aged forty-eight, was operated upon at the age of twenty under a mistaken diagnosis of congenital torticollis. The deformity persisted, however, without change. There was a marked cervicodorsal lateral curvature to the right and limitation of the head movements in all directions. X-ray examination showed a fusion of the second and third cervical vertebrae, and an incomplete development of the left half of the sixth, forming a wedge-shaped vertebra. There was a upright cervical rib present.

Mrs. C. B., white, aged thirty-seven, first seen October 2, 1938, was noted to have an abnormally short neck with a very low margin of the hair. There was a congenital dimple over the lower cervical vertebra, but no growth of hair at that point. She had considerable lack of motion of the neck with the head tilted somewhat to the right. X-ray showed the first and second as well as the fifth and sixth cervical vertebrae to be fused. There was also a spina bifida occulta of the sixth and seventh cervical and first four thoracic vertebrae.

Mrs. C. M., white, aged forty-four, first seen on March 24, 1939, complained of pain in the left shoulder which was higher and closer to the vertebrae. There was marked limitation of movement of the left shoulder. X-ray examination showed a typical Sprengel's deformity with articulation of the left scapula to the first, second, and third thoracic vertebrae. The left shoulder was 7.5 cm. higher and 6.0 cm. nearer to the median line. The right scapula was 7.5 cm. from the median line. Spina bifida occulta of the first, second, and third thoracic vertebrae was present and a scoliosis with the convexity to the left.

BIBLIOGRAPHY

1. Klippel, M., et Feil, A.: Anomalie de la Colonne Vertebrale par Absence des Vertebres Cervicales; Cage Thoracique Remontant jusqu'a la Base du Crane. *Bull. et Mem. Soc. Anat. de Paris,* LXXXVII, 185, 1912.
2. Putti, V.: Die angeborenen Deformitaten der Wirbelsaule. *Fortschritte auf dem Gebiete der Rontgenstrahlen,* 1910, Vol. 4: 395-499.
3. Von Recklinghausen, F.: Untersuchungen uber die Spina Bifida. *Verchow Arch. f. Path. Anat. u. Physio,* Berlin, 1886, c. v. 243, 373, 2 pl.
4. Goodhart, James F.: Description of Three Cases of Malformation of the Spinal Column Associated with Lateral Curvature. *Journal of Anatomy and Physiology,* 1874-75, Vol. IX: 1-16.
5. Bertolotti, M.: Le Anomalie Congenite del Rachide Cervicale la Chirurgia Degli Organi de Movimento. 1920, Vol. 4: 395-499.
6. Schuller, Arthur: Rontgen-Diagnostik der Erkrankungen des Kopfs. Wien und Leipzig, Alfred Holder. 1912: pp. 81-83.
7. Mayer, L.: Uber Schadil Verbiegungen. *Arch. fur. Psychiatry,* 1868, Vol. 1: 334-336.
8. Grawitz, Paul: Beitrag zur Lehre von der Basilaren Impression des Schadels. *Virchow Arch. f. pathol. Anat.,* 1880, Vol. LXXX: 449-474.
9. Schuthess, W.: Schadelasymetric bei Congenital Skoliosi. *Zeit. fur. Orth. Chir. Bd.,* 19, 1907, p. 87.
10. Monestier, George: Des Signes Radiologiques du Syndrome de Klippel et Feil a propos de Deux Cas Nouveaux de Cette Malformation. These de la Fac. de Med. de Paris, 1925.
11. Lupo, M.: Sulla Proiezione Assiale del Cranio. *Radiol. Med.,* Milano, 1921, IX: 143-145.

1252 Sixth Street, S. W.

STONE FORMATION IN THE KIDNEYS.

J. A. SHACKELFORD, M.D.,
Martinsville, Virginia.

Mrs. W. L. H., a white female, age forty-three, was admitted to the hospital October 4, 1939, complaining of weakness and painful and frequent urination. She dates the beginning of her trouble to about eight years ago at which time she noticed blood in her urine and passed several small stones from her bladder. Since that time she has had several similar attacks of short duration; otherwise, she has enjoyed very good health and has been able to carry on her house work without any appreciable discomfort or interruptions. At no time has the pain been very severe. There is no history of injury of any kind.

On admission to the hospital her temperature was 102.2. Examination of a catheterized specimen of urine showed two plus albumin, a large number of RBC and a small amount of pus. The W. B. C. was 20,000, Hgb: 6.4 gms., RBC 2,800,000.

A KUB flat plate showed extensive areas of in-

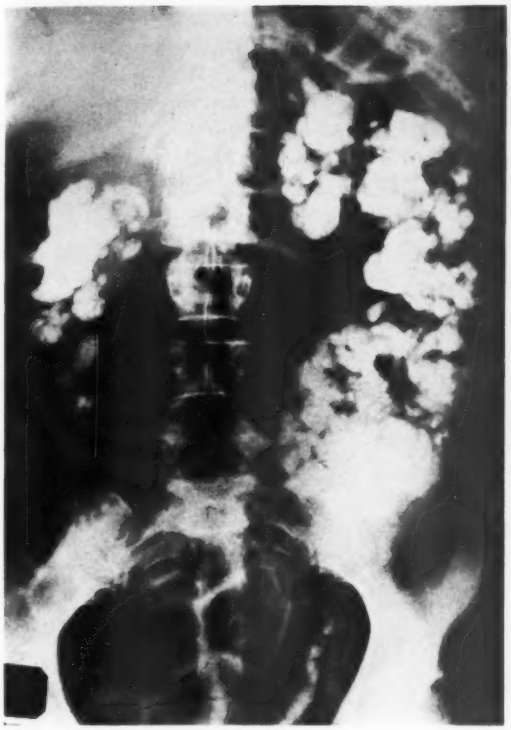


Fig. 1.

Fig. 2.

creased density over both kidney regions but more marked on the left, the left ureter being packed with stones. The appearence was that of extensive stone formation in both kidneys and the left ureter. She returned to the hospital on November 11, 1939, for further observation and for intravenous urography. She brought with her about a cupful of small, irregular hard stones which she had passed since leaving the hospital on October 6. KUB flat plate showed most of the stones in the left ureter had been passed (note Fig. 2).

This case is of particular interest, first, because of the remarkable amount of stone formation in the kidneys, and, second, because of the little discomfort and lack of interference with her work and usual routine of life.

Correspondence

The Approach to a Lump in the Breast.

TO THE EDITOR:

In my paper "The Approach to a Lump in the Breast" which appeared in the VIRGINIA MEDICAL MONTHLY for April, 1940, I was guilty of an error which I hasten to correct. In that paper there appears the following sentence:

"Although at the Memorial Hospital aspiration biopsies are usually considered diagnostic in both a negative and a positive sense, we have not felt justified in accepting a negative biopsy even if tissue is obtained, as we do not feel that the significant portion of the mass is necessarily entered."

It has been brought to my attention that this is a misinterpretation of the attitude of the pathologists at the Memorial Hospital. The latter portion of the sentence more nearly expresses their point of view which therefore is in complete agreement with mine.

EDWIN P. LEHMAN, M.D.

University, Va.
May 6, 1940.

U.S.P. Interim Revision Announcement No. 2 Concerning the U.S.P. XI Standards for Surgical Gut (Chorda Chirurgicalis).

Philadelphia, Pa.
May 15, 1940.

TO THE EDITOR:

On the recommendation of the Committee of Revision of the U.S.P. XII, and with the approval of the Board of Trustees, the enforcement of the standards for Surgical Gut, which were announced in the Second Supplement to the U.S.P. XI, are postponed until January 1, 1941.

These standards were to become official on July 1, 1940, but because of the discovery that considerable stocks of Surgical Gut, conforming to the new Pharmacopoeial standards with respect to their diameter, tensile strength, and sterility, but not labelled in accordance with the new official requirements, were still in the hands of dealers, the action reported above was taken by the official Pharmacopoeial Committee and Board. Since this Surgcial Gut could be used with entire safety it was deemed unwise and unnecessary to render the stocks unsaleable and therefore cause a large financial loss.

It is understood, therefore, that the Pharmacopoeial standards for Surgical Gut as set forth in the Second U.S.P. XI Supplement, pages 40 and 41, will become official on January 1, 1941.

E. FULLERTON COOK,
General Chairman, U.S.P. XII Committee.
E. F. KELLY,
Chairman, Board of Trustees of the U.S.P. XII.

Intravenous Drip Method of Treatment of Syphilis.

TO THE EDITOR:

The American Social Hygiene Association is interested in getting the following information to the medical profession:

In order that there may be a central source of information with regard to studies of the intravenous drip method of treatment of syphilis ("the five day treatment"), the American Social Hygiene Association at 50 West 50th Street, New York, has been asked to gather and to keep available information regarding this subject. The Association requests all physicians and hospitals which are planning or are now carrying on studies of experiments with this method of treatment of syphilis to send brief information regarding the following points to the Association at the above address:

1. Name of hospital or other institution.
2. Name of principal physician in charge of the intravenous drip study.
3. Type of case or cases of syphilis treated by the intravenous drip method.
4. Name of drug or drugs used.
   (a) By the intravenous drip method.
   (b) By any other method before, during or after intravenous drip therapy. (Mention any specific therapy used.)
5. Routine laboratory work done on cases of syphilis treated by the intravenous drip method.
6. Usual number of hours of intravenous drip treatment per day per patient.
7. Usual number of days of intravenous drip treatment per patient.
8. Any other pertinent facts.

The Association will be glad, so far as possible, to answer inquiries regarding the intravenous drip treatment of syphilis. The Association has available to physicians, upon request, a brief pamphlet on the subject of the present status of the intravenous drip method of treatment of syphilis, written by Dr. Charles Walter Clarke, Executive Director of the Association and a member of the New York City Committee on the Intravenous Drip Treatment of Syphilis.

THE AMERICAN SOCIAL HYGIENE ASSO., INC.
50 West 50th Street, New York City.

Public Health Statistics

I. C. RIGGIN, M. D.,
State Health Commissioner of Virginia

The report of the Bureau of Communicable Diseases of the State Department of Health for May, 1940, compared with the same month in 1939, follows:

	1940	*1939*
Typhoid and Paratyphoid Fever	12	14
Diphtheria	29	30
Scarlet Fever	148	64
Measles	962	3,179
Meningitis	14	0
Poliomyelitis	0	0
Rocky Mountain Spotted Fever	0	3
Typhus Fever	0	0
Undulant Fever	3	3
Tularaemia	1	4

ROCKY MOUNTAIN SPOTTED FEVER

Rocky Mountain spotted fever was first recognized in Virginia in 1931 with the reporting of six cases.

This figure rose to nine in 1932; to twenty-three in 1933; and to forty-seven in 1934. Since 1934 an average of fifty-four cases has been reported annually with a tendency toward a slight increase; however, in all probability this is due to a more general recognition rather than to spread of the infection.

The following table shows the number of cases, number of deaths, and the percentage case fatality for Virginia by years 1931-1939 inclusive:

YEAR	NO. OF CASES	NO. OF DEATHS	PERCENTAGE CASE FATALITY
1931	6	0	0.0
1932	9	2	22.2
1933	23	4	17.4
1934	47	8	17.0
1935	45	10	22.2
1936	50	9	18.0
1937	54	9	16.6
1938	72	13	18.0
1939	50	5	10.0

The fact that comparatively few cases are reported annually should not lessen the degree to which preventive measures are applied since the case fatality is relatively high in comparison to other communicable diseases.

The seasonal incidence of Rocky Mountain spotted fever corresponds to the tick season of the locality concerned. In the east the tick responsible for Rocky Mountain spotted fever is *Dermacentor Variabilis*, commonly known as the "dog tick." In Virginia this tick makes its appearance in March, is most abundant during June and July, though it is found as late as November or December.

The history of spotted fever both in the east and west shows very clearly that some areas are more heavily infected than others. Virginia is no exception in this respect. Of the 271 cases reported to the State Department of Health for the years 1931 through 1939, only twenty-four were from areas west of the Blue Ridge Mountains; all others occurring east of this range. It also is worthy of note that none of the twenty-four cases reported were recognized clinically but were diagnoesd on routine blood agglutination tests. Therefore, there is some doubt as to whether these were true cases of spotted fever. East of the Blue Ridge, the most heavily infected areas are northern and eastern Virginia, though cases have been recognized in practically every county east of this range.

Each spring and summer the State Department of Health receives many inquiries concerning the advisability of vaccination and other prophylactic measures.

The U. S. Public Health Service at its Hamilton, Montana, laboratory has developed a vaccine which, following years of use, has proven to be of value; however, the degree and duration of immunity varies. Evidence suggests that the vaccine produces a high degree of immunity against milder strains and definitely reduces the severity of symptoms in those cases infected with highly virulent strains. It is recommended that all exposed persons be vaccinated each year. The degree of immunity is no doubt increased following successive vaccinations; however, there is no evidence that permanent immunity is ever established.

The question sometimes is asked, how long will the immunity level be maintained to the degree sufficient to prevent infection? Experience thus far indicates that immunity persists for a long period. However, from the clinical and immunological standpoints, there is no reason why persons who have suffered an attack of spotted fever should not be vaccinated as an added protection.

From the therapeutic aspect, favorable results have been reported in a few instances where the vaccine was used against the milder types of spotted fever, but the evidence is inconclusive. Therapeutic use is not recommended by the United States Public Health Service.

The dosage of the vaccine for adults is two subcutaneous or intramuscular injections of 2 cc. each, five days apart. The interval between doses may be extended without harm. For individuals living in areas where the incidence and case fatality rates are high and for those receiving their first series of inoculations, three injections are advised. Children over ten years of age should be given the adult dose. Under ten years of age, 1 cc. at each injection is recommended.

Reactions following injections of the vaccine are local as a rule, consisting of redness, swelling, and itching. Slight elevation of temperature and general malaise may be present for twenty-four to forty-eight hours. A few instances of mild anaphylactic reactions have been reported.

The vaccine is distributed in Virginia by the United States Public Health Service through the State Department of Health to physicians only, without cost. Any physician wishing vaccine should communicate with the State Department of Health, Richmond, Virginia.

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Reports for 1940 Annual Session of the Medical Society of Virginia

The Council

The regular winter meeting of the Council was held on January 16th and the minutes of this meeting were published on pages 176-179 of the March, 1940, VIRGINIA MEDICAL MONTHLY.

Minutes of a special meeting of the Council on February 15th appear on pages 246-7 of the April, 1940, MONTHLY.

Report of Executive Secretary-Treasurer

Because of the fact that we have advanced the dates of our meeting by two months to enjoy a joint meeting with the West Virginia State Medical Association, some committees may have supplemental reports to make at time of our Council meeting in October when new officers are installed. Committees have been most active this year and much excellent and far-reaching work has been accomplished by them.

In the proceedings of the Council, it was voted to have our Society date its existence from December 15, 1820, date of its original organization, so that we reach the ripe age of 120 years this coming December. The seal of the Society has been changed accordingly.

Our membership as of June 15 numbers 1,855 as against 1,848 last year. We have enrolled seventy-seven new members and reinstated six. Our losses have been twenty-six by death, eighteen by resignation, and thirty-two dropped for non-payment.

A charter having been given the James River Medical Society in accordance with action at the last meeting of the Society, we now have forty-eight component societies, representing ninety-one counties and one city.

This Society was represented at the American Medical Association meeting by Dr. Wright Clarkson and Dr. Walter B. Martin, delegates, and Dr. Carrington Williams, alternate for Dr. Alex. F. Robertson, Jr.

At the U. S. Pharmacopoeial Convention in Washington, our delegates were Dr. J. A. Waddell, Dr. Harvey B. Haag and Dr. H. W. Miller.

It having been recommended last year that our representatives to the Virginia State-Wide Safety Conference be named from the city in which the Conference is held, Dr. Trout appointed Dr. W. R. Whitman, Dr. R. M. Hoover and Dr. John F. Cadden, of Roanoke.

The President also asked Dr. I. C. Riggin to serve for this Society in the Eighth American Scientific Congress in which we were invited to have representation.

Because of other work, Dr. Ennion Williams asked to be relieved of his duties on the Committee on the Control of Syphilis and Dr. R. D. Kimbrough, of Norfolk, a member of the Committee, was asked by the President to take the chairmanship and Dr. James W. Love, of Alexandria, was named a member to fill the vacancy.

The financial year of the Society does not close until September 30th, after which the books will be audited and a full report presented the Council. We might say, however, that the Society has lived within its income.

We take this opportunity to express our appreciation to all officers, committees and many individual members who have been most cooperative in the work of this office.

AGNES V. EDWARDS,
Executive Secretary-Treasurer.

Report of Committee on Publication and Program

This committee has been active during the past year in planning the joint meeting with the West Virginia State Medical Association to be held in White Sulphur Springs, July, 1940. There will be several innovations, including the decision to have only guest speakers on the regular program and the discussants from the two participating societies. The program will consist of morning sessions devoted to formal papers and afternoons devoted to round table discussions. The meeting will take the nature of a post-graduate course. In this respect it will meet the express wishes of many members of the society as voiced through a recent questionnaire.

The committee has also been concerned with your official publication of the VIRGINIA MEDICAL MONTHLY and it is expected that certain suggestions which have come out of the meetings may add to the interest and value of your publication.

J. EDWIN WOOD, JR.,
H. S. DANIEL,
WYNDHAM B. BLANTON,
Chairman.

Report of Committee on Scientific Exhibits and Clinics

TO THE PRESIDENT AND MEMBERS OF THE HOUSE OF DELEGATES:

In the past few months, we have been very busy attempting to secure Scientific Exhibits from the members of the Medical Society of Virginia and some institutions near-by. At the same time, the Scientific Exhibit Committee of the West Virginia State Medical Association has been doing its part in interesting its members in the same project.

Last year was the largest year ever in the history of the Medical Society of Virginia from the standpoint of Scientific Exhibits. We had forty-four exhibits, the largest number, to our knowledge, which has ever been

shown in any of the Southern States. Members of the Society were kind in their praise of the last year exhibits and we are doing our best to live up to that reputation in so far as finances will permit us.

The West Virginia Association has not had any appreciable sized Scientific Exhibit in the past but is making a strenuous effort this year to build up this feature. They met with us last April at White Sulplur Springs and we drew up plans for an excellently arranged Exhibit and, to the time of preparing this report, the two Societies have secured thirty-four exhibits.

We hope you will like the exhibits this year, at White Sulphur Springs, and will see fit in the future to aid the Committee by furnishing exhibits and allowing as much money as possible. If it had not been for the loan of the skeletal material of the Scientific Exhibit last year in Richmond, it would have cost between $500 and $600 to complete the task. The Southern Medical Association has about 100 technical and commercial exhibits and spends some five thousand dollars for the cost of putting them up. You can thus see that, since we had more than one-third as many scientific exhibits as they had, and about one-fourth as many commercial exhibits, we have relatively little financial assistance to carry out our assigned task.

Acknowledgment with thanks is made of the $100 turned over to the Council by the Richmond Academy of Medicine, as a surplus from last year's meeting, to be used for scientific exhibits.

We believe you will agree with us that there is increasing interest in the Scientific Exhibits at medical meetings, and physicians have expressed themselves freely as being tremendously interested in them.

We look forward to seeing you at White Sulphur Springs in July and hope the Scientific Exhibit will help make your trip well worth while.

W. W. S. BUTLER,
WILLIAM R. ROGERS,
W. AMBROSE MCGEE,
Chairman.

Department of Clinical and Medical Education

During the period covered by this report (July 28, 1939-May 27, 1940*) the activities of the Department have centered around short postgraduate courses in Internal Medicine and Surgery, and the fall and spring clinics at the two medical schools.

SHORT COURSES IN INTERNAL MEDICINE AND SURGERY

Two short courses in Internal Medicine have been completed (at Alexandria and Newport News), one is now in progress (at Warrenton), and another (in Southampton County) is being arranged.

Twenty-five doctors from Alexandria and vicinity were enrolled in the course at Alexandria. In addition, there were a number of visitors who attended one or two meetings. The average attendance was fifteen. Dr. J. W. Love, Secretary of the Alexandria Medical Society, was instrumental in making local arrangements for the course and enrolling members. Twenty-four doctors from Newport News and vicinity enrolled for the course in Newport News. A few visitors were also reported for one or two meetings. Dr. E. B. Mewborne, of Newport News, attended to all details of local organization. Dr. W. R. Pretlow, Secretary of the Fauquier County Medical Society, reports a probable enrollment of twelve doctors in the course at Warrenton.

Reports of courses are made in the VIRGINIA MEDICAL MONTHLY as soon as they are completed.

SUMMARY

Centers	No. Meetings	Enrollment
Alexandria	6	25
Newport News	6	24
Warrenton	6	12 (Est.)
Southampton County	- Pending	--
Totals	18	61

These courses have been organized at the request of the local societies in each case. The only promotion carried on has been through announcements in the MEDICAL MONTHLY. It has been the policy of the Executive Secretary to submit to interested societies a suggestive list of topics and speakers for a program. The local society is asked to add topics and speakers of their own choice and from the complete list to make final selections. The Executive Secretary then schedules the speakers, mails a printed notice of the program to each doctor in the locality, and sends a card each week reminding doctors of the next meeting. The local society is requested to determine the place of meeting, collect fees, and arrange for clinical cases or case histories to be presented at each meeting. For the most part, faculty members of the two medical schools have been depended upon for lectures on these programs. In spite of heavy institutional duties, these doctors have shown a highly commendable willingness to assist in the program.

The Department of Clinical and Medical Education, at its regular annual meeting, held in the State Society's offices in Richmond on May 28, 1940, spent considerable time in re-appraising the work of the Department and in discussing questions of policy for work in the future. In reviewing the achievements of the Department, the opinion was unanimous that much excellent work had been done, that results were extensive and frequently of a very high order, and that further efforts in the field of postgraduate medical education should be carried forward with enthusiasm and vigor. Arguments centered chiefly on the question whether in the future the Department should limit its efforts to programs designed to reach the general practitioner, in other words to non-specialized educational programs, or whether it should begin to devote part of its effort and resources to developing more specialized types of postgraduate medical education. Attention was called to the short post-

*This report covers less than a twelve-month period because of the fact that the annual meeting of the Medical Society has been advanced this year by approximately two months.

graduate course on Recent Advances in Internal Medicine which is being conducted by the Department of Internal Medicine of the University of Virginia from June 17 to June 22, 1940. It was pointed out that attendance upon this short course was limited to twenty and that the instruction was purposely rather advanced as well as rather specialized in character. The question was whether this type of instruction should now receive the attention and, if necessary, some financial assistance from the Department. Opinion was unanimous that this type of instruction was desirable and that the Department would be justified in spending a part of its effort and available resources in furthering postgraduate medical education of this character. However, the Department was convinced that much of its attention should still be directed to education designed to reach the general practitioner and to encourage those who otherwise might not do so to continue their studies and investigations and their efforts to keep abreast of new developments in medical theory and practice. The conclusion was that the local courses which have been sponsored so successfully by the Department should continue to point to this general educational responsibility, that the two medical schools should continue to conduct the popular postgraduate clinics with the interests of the general practitioner in view, but that attention should now be given to more advanced and more specialized types of postgraduate instruction.

In giving expression to this policy of enlarging the scope of the Society's activities in the field of postgraduate education, the following steps were taken:

1. The Executive Secretary, in cooperation with the Chairman of the Department, was given permission to use such part of the Department's funds as seems desirable in assisting the two state medical schools in improving or enlarging the postgraduate clinics which they have been conducting for some years. While these clinics have in the past been conducted in cooperation with the Department of Clinical and Medical Education, they have been financed almost entirely by the two medical schools which have depended chiefly on local instructors. The immediate purpose of this action was to make it possible to assist the medical schools in bringing in outside or out-of-state speakers and clinicians.

2. The Executive Secretary, in cooperation with the Chairman of the Department, was given authority to use at his discretion not more than $300 for the next fiscal year in assisting the two medical schools, if they apply for such assistance, in organizing short and more specialized postgraduate courses for practicing physicians. These courses would be of a more advanced type than those referred to above.

3. The Department voted to affiliate with the Associated State Postgraduate Committees, an organization sponsored by the American Medical Association which is chiefly concerned with furthering postgraduate medical education among the several state medical societies. The Department was also authorized to send a representative to the forthcoming meeting of the Associated State Postgraduate Committees and the traveling expenses of a representative to this meeting were authorized.

4. The Executive Secretary was instructed to prepare an exhibit to set forth briefly the purpose, the organization, and the activities of the Department in postgraduate medical education, which exhibit is to be shown at the forthcoming joint meeting of the Virginia and the West Virginia State Medical Societies. A sum not to exceed $50 was authorized to cover the expenses of preparing and presenting this exhibit.

5. At the annual meeting of the Department of Clinical and Medical Education held in Richmond, August 10, 1939, the suggestion was made that the postgraduate program could be operated with less expenses if an organizer was not sent to localities to promote courses. This suggestion dictated the policy of the Executive Secretary during the year under review and accounts in part for the fact that relatively few postgraduate courses have been organized. It was felt that the Department might return to a more aggressive policy, and the Executive Secretary was instructed to take such steps as in his opinion seemed wise in promoting, in cooperation with component societies, regional postgraduate courses.

6. The Medical Society of Virginia was requested to appropriate the sum of $750, together with the unexpended balance of $1,008.29 which is being returned to the Society, or a total of $1,758.29, to carry forward the work of the Department for the next fiscal year. This sum is considerably in excess of the sum actually spent by the Department during the year covered by this report. However, it will be observed that the Department is proposing to extend its activities and to enlarge its program. Because of the high quality of the work that has been achieved in recent years, of the enthusiastic reports that are coming to the Department from physicians participating in the postgraduate activities, and of the interest in the two medical schools in strengthening and extending their facilities for postgraduate instruction, the Department sincerely hopes that the sum of $1,758.29 will be appropriated for the next year. This will mean a net yearly appropriation of only $750, the net amount that has been contributed annually for several years, which for the present seems a modest sum set aside for the continuing education of members of the profession.

Respectfully submitted,

A. F. ROBERTSON, *Chairman*,
GEORGE B. ZEHMER, *Executive Secretary*.

FINANCIAL STATEMENT
July 28, 1939-May 27, 1940

RECEIPTS

Balance on hand July 31, 1939	$620.21
Received from Medical Society of Virginia, February 21, 1940	500.00*
Received from fees and sale of notes	236.62
	$1,356.83

*This amount is all of the $1,200 appropriated by the Society for postgraduate medical education that was actually transferred to the account of the Department of Clinical and Medical Education and leaves, therefore, $700 of the original appropriation in the Society's treasury.

DISBURSEMENTS

Refund of balance to Medical Society of Virginia, August 17, 1939	$620.21	
Salaries and wages	246.75	
Travel	153.95	
Communication and office supplies	27.63	
		$1,048.54

May 28, 1940—Balance on hand from the Medical Society of Virginia $ 308.29

A. F. ROBERTSON, M. D., *Chairman,*
GEORGE B. ZEHMER, *Executive Secretary.*

Report of Committee on Legislation

During the meeting of the General Assembly a number of matters affecting medical interests in the State required the attention of your Committee on Legislation. Some of the questions involved had been considered by the Society and definite instructions had been given the Committee. In other matters touching general policy the Committee based its actions upon the traditional attitude of this and other branches of organized medicine.

In the first group may be mentioned the Premarital Bill, H-472, the Governor's Reorganization Bill, H-484, and the Hospital Bill, S-253. In each of these the views of the Society prevailed.

The Bill to subject physicians to a license tax, H-200, had been considered by the Council and this body deemed it inadvisable that formal opposition be made. This decision was communicated to the House Committee on Finance and, in accordance to instructions from the Council, your Committee stated in detail the grounds upon which physicians might claim exemption from tax and also furnished information as to the practice of other States in taxing physicians. The Bill was killed in Committee.

House Bill 120 proved most troublesome. Pretending in its title to regulate the practice of chiropractic, it provided for the establishment of a board of three chiropractors to license and control the practice of this cult in the State entirely independent of other authority. To promote its passage a paid lobbyist, himself an ex-senator, was engaged. It was argued that there are now seventy-four chiropractors operating illegally in Virginia, that their services are in great demand by citizens, that juries are unwilling to convict them, and that they should, therefore, be recognized and regulated. Legislators were persuaded that this Bill was a remedy for what all agree is a bad situation. When heard by the House Committee on General Laws, the Bill was opposed by the State Society, State Board of Medical Examiners and State Board of Health. It was, nevertheless, reported out by a large majority. Strenuous efforts were then made by your Committee, aided by officers and members of the Society, to better acquaint the Delegates of the nature of this Bill and this was apparently accomplished. Upon reaching the floor of the House, the Bill was recommitted for further study. At a later hearing before the Committee it was referred to a Sub-Committee and did not later emerge. In the meantime an identical Bill, S-284, came to hearing before the Senate Committee on General Laws but was not acted upon.

Your Committee wishes to make grateful acknowledgment of the generous cooperation of the State Board of Medical Examiners, the State Board of Health, the State Board of Education, the Registrar of Vital Statistics, and the Legislative Bureau of the A.M.A. in bringing about the defeat of the Chiropractor Bills.

In conclusion, the Committee desires to direct the attention of the Society to the matter of controlling the activities of this large body of self-confessed law-breakers and to urge that special study of the problem be undertaken at this time.

J. MORRISON HUTCHESON,
Chairman.

Report of the Committee on Medical Economics

Your committee has been very active during the past year and submits the following report of its activities:

I. The first duty of your Committee was to carry out instructions adopted by the House of Delegates at the 1939 meeting. Copies of the resolutions adopted regarding the Wagner Bill (Senate Bill No. 1620) were sent to our representatives in Congress. Copies of the proposals covering hospital care of the indigent and low income group were sent to our representatives in Congress, the members of the Board of Trustes of the American Medical Association, and to the Secretaries of each of the State Medical Societies with the request that the various State Medical Societies take action on similar resolutions prior to the next meeting of the House of Delegates of the American Medical Association. In cooperation with other interested groups, notably the non-profit hospital service associations, an enabling act was introduced and passed by the State Legislature. This act clarifies the status of the non-profit hospital service association, and permits the formation and operation of similar non-profit medical service plans and sets up standards for the operation of such plans.

II. The Medical Economics Committee was authorized to develop a plan for furnishing group medical care to the low income group, but decided that such plans should first be developed on a local basis, and consequently recommends that local medical societies develop plans for their own communities, and that the State Society observe the development and operation of local community plans before considering the institution of a state-wide plan. It is recommended that all plans for the provision of low cost group medical care shall be submitted to the Council of the Medical Society of Virginia for approval before beginning operation.

III. Medical Legislation is a prime concern of the Economics Committee. The Wagner Bill (Senate Bill No. 1620) has not been reported out of Committee, though the subcommittee considering it has rendered a preliminary report which indicates that the subcommittee will sponsor medical legislation based on conclusions drawn from the hearings.

The President's recommendation to Congress for hospital construction in rural areas, suggesting $10,000,000

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as an initial and more-or-less trial appropriation, was followed by introduction of bills carrying larger appropriations and widening the scope. Senator Taft introduced an amendment to S. 3230 which is in line with the recommendations of organized medicine particularly in that hospitals are to be constructed only where there is demonstrated need, the proportion of the Federal grant is dependent upon the economic status of the state concerned, the title to the hospital constructed will be held by the state or subdivision thereof rather than the Federal government, and providing for a National Advisory Hospital Council to be appointed by the Surgeon General and giving that body the authority necessary to carry out the aims of the Act. We wish to reiterate the statement in the 1939 report that "hospitals are overburdened with the care of the indigent and the low income group and should be subsidized in an amount adequate to meet the cost of this service. This would allow an orderly and progressive extension of hospital facilities." However since there is need of hospital construction or extension in certain areas, and the Taft amendment provides for the method of control acceptable to the medical profession, your Committee recommends that the House of Delegates approve the Taft amendment to S. 3230 and instruct the Secretary to so inform our representatives in Congress.

Being an election year, the likelihood of the passage of drastic medical legislation is remote, but two other measures introduced in Congress deserve attention. A Bill to amend the Social Security Act for the purpose of providing health insurance for workers in severe economic distress, and making more adequate provision for the care of the sick, introduced by Senator Lodge (S. 3630) and a Bill to aid in the establishment of State health insurance plans, by Senator Capper (S. 3660). The latter bill is the long awaited model bill prepared by the American Association for Social Security. Both are steps toward expanded Federal control of local medical matters, and your committee recommends that the bills in their present form be opposed.

It is the opinion of the committee that changes in the American system of medical practice should proceed very slowly, and largely by evolution through experience gained from the operation of varying local plans devised to meet local needs. It is also felt that the problem varies according to locality to such an extent that each community, and certainly each state must have wide discretion both in planning and in the operation of plans.

IV. Your Committee commends the formation of the National Physicians Committee for the Extension of Medical Service, approves the objectives, and recommends to the members of the Medical Society of Virginia that the National Physicians Committee be supported.

V. Your Committee approves the platform of the American Medical Association and recommends that Dr. Walter B. Martin be instructed to reintroduce to the House of Delegates of the American Medical Association the resolution adopted in 1939 relating to the payment for hospital services to the indigent and low income groups.

VI. The problem of the resettlement of foreign physicians was considered by your Committee. Sympathy with their plight, and resentment against the regime which precipitated such a situation is almost universal, but the relaxation of rules for the benefit of one group and not another is always dangerous. Consequently, your Commitee recommends that the Board of Medical Examiners be requested to cooperate with the National Committee for Resettlement of Foreign Physicians in every manner consistent with maintainance of the standards of medical practice in Virginia.

VII. The problem of the control of irregular and illegal practitioners was considered at length. The situation was rendered especially acute because of the near passage of the Chiropractic Practice Act by the last legislature. Undoubtedly the next legislature will pass that or a similar measure unless the medical profession of Virginia by education and prosecution serves to awaken the legislators to the dangers which will result from relaxation of the standards required of those who minister to the sick and are responsible for the maintenance of public health standards.

After careful consideration of the situation, and frequent consultation and close cooperation with the Legislative Committee, the State Board of Medical Examiners, and the State Health Department your Committee recommends that the dues of the Medical Society of Virginia be increased by $2.00 annually and that the fund so created constitute a special fund for (1) the control of illegal and irregular practitioners of the healing arts, and (2) educational efforts to acquaint the legislators and prosecutors of the State with the development and administration of the Medical Practice Act, and further recommend that the administration of the above-mentioned special fund be entrusted to a special committee composed of the President of the Medical Society of Virginia, the Chairman of the Legislative Committee, and the Chairman of the Committee on Medical Economics, subject to the control of the Council and House of Delegates of the Medical Society of Virginia.

VIII. Due to the rapid encroachment upon medical practice, the changing economic status of the practice of medicine, the confusing cross currents of political thought, the multiplicity of rules and regulations, and the uncertainty regarding the applicability of certain laws to medical organizations, your Committee recommends that the Council of the Medical Society of Virginia be authorized to retain legal talent for advice and guidance.

GUY FISHER,
A. B. HODGES,
JAMES P. KING,
H. A. LATANE,
CARRINGTON WILLIAMS,
JOHN HUNDLEY, JR.,
Chairman.

Report of Membership Committee

The Committee has not been called upon to pass on aplications for membership as all new members this year have come in through their component organizations.

Notices have appeared in the MONTHLY in regard to members of whose deaths we have learned.

We wish to propose for Honorary Membership Dr. Hugh H. Trout, who has served the Society so efficiently during the past year.

J. BOLLING JONES,
D. M. KIPPS,
J. A. WHITE,
Chairman.

MEMBERS WHOSE DEATHS HAVE BEEN PUBLISHED IN THE MONTHLY SINCE THE 1939 MEETING

Dr. Antonio Gentile, Newport News, November 16, 1939.
Dr. Austin Micklem, Rockfish, November 23, 1939.
Dr. Charles Augustus Simpson, Washington, D. C., December 9, 1939.
Dr. Rudolph Angus Nichols, Jr., Richmond, December 10, 1939.
Dr. Bertrand Ryland Hudnall, Covington, December 21, 1939.
Dr. Harvie Smith Baker, Norfolk, December 26, 1939.
Dr. Philip Doddridge Lipscomb, Richmond, January 4, 1940.
Dr. Benjamin Henry Bascum Hubbard, White Stone, January 7, 1940.
Dr. David Lee Hirschler, Norfolk, March 22, 1940.
Dr. Lewis Harvie Taylor, Washington, D. C., March 30, 1940.
Dr. George Adam Stover, South Boston, April 5, 1940.
Dr. Joseph Francis Geisinger, Richmond, April 15, 1940.
Dr. Robert Lee Page, Batesville, April 29, 1940.
Dr. Donald MacKenzie Faulkner, Richmond, May 6, 1940.
Dr. Thomas Melville Talbott, East Falls Church, May 10, 1940.
Dr. James Wilson Hunter, Jr., Norfolk, May 11, 1940.
Dr. James Morrison, Lynchburg, May 15, 1940.
Dr. John Abner Hawkins, Danville, June 7, 1940.

Report of Ethics Committee

The Ethics Committee has no report to make as it has not had anything referred to it this year.

W. D. KENDIG,
Chairman.

Report of the Advisory Committee to the Woman's Auxiliary

The Advisory Committee to the Woman's Auxiliary has nowadays very little to do except the pleasant duty of watching the good work go on; of watching each new President rising to the dignity and importance of her station; of seeing her put forth every effort to have the various local Auxiliary Chapters, or Units, do just a little better than the year before; of branching out into new fields of cooperative work.

Those of us who have watched the evolution of the Woman's Auxiliary since its inception must look with pride on its great accomplishments. Each year brings new opportunities for help, and the Auxiliary is not slow to grasp and go out in search of new fields.

We recommend that the Society give them every encouragement and help; and, since they are a part of the Society, let us make it truly cooperative; and not only give them advice, but seek advice from them, especially along the lines of entertainment at our State meetings. To make our meetings more attractive to young people, let's give our boys and girls a chance.

Committee:
HAWES CAMPBELL, SR.,
JAMES B. STONE,
P. ST. L. MONCURE,
Chairman.

Report of the Child Welfare Committee

The status of Child Welfare in Virginia slowly but steadily improves.

Appropriations by the recent legislature, while disappointing in many respects, were far from being discouraging.

For the year ending June 30, 1941, the sum of $148,-200 was appropriated for Rural Health work. This will make possible the establishment of four new county departments in Virginia; Charlotte, Smyth, Chesterfield and Orange Counties. Other county health departments will be organized as soon as funds are available. This means the extension of Maternal and Child Health work to these counties. It also means the extension of this work to include fifty counties of the State and perhaps to 60 per cent of the population. Only with well-organized county health units can effective Maternal and Child Health work be developed.

The report of the Maternal and Child Health Bureau gives splendid testimony to the thoroughness with which the Bureau is doing its job. There was a reduction of $1,450 in the appropriation made by the recent legislature for the year ending June 30, 1941.

DIPHTHERIA

There were one hundred deaths from diphtheria in 1939, an increase of eleven deaths over those for 1938, There was no appropriation for free distribution of toxoid by the last legislature. The members of the committee feel that much has been accomplished in diphtheria prevention, but there are still large numbers of infants who are not receiving this protection.

Your Committee recommends that the Medical Society of Virginia urge all physicians in the State to make every effort to see that all babies be given diphtheria toxoid during the first year of life.

Further, realizing that some children who have been immunized during infancy will have lost their immunity by the fifth or sixth year, it recommends that all children on entering school be given a Schick test to ascertain whether or not they are still immune.

TUBERCULOSIS

During 1939 there were 1,639 deaths from tuberculosis. The figures for those under twelve years of age are not

available at this writing but it is known that relatively few are among children. The decline in deaths due to tuberculosis is gratifying.

A forty-bed "preventorium" for colored children was established at Burkeville Sanatorium during the past year. There are forty beds available for white children at Blue Ridge. In municipal sanatoria there are seventy-six beds for white and fourteen for colored children.

The members of the committee feel strongly that the best interests of the State would dictate that the "preventorium" idea give away to the care of actively tuberculous children and that the care of exposed children not yet shown to be tuberculous, be left to the supervision of the family physician or local medical authorities or agencies.

X-ray examination of teachers in the public schools has not yet been required. A recommendation to that effect by this Committee was adopted by the Society last year.

The recommendation of the Committee that sectarian and non-sectarian schools be placed under the supervision of the State Health Department has not yet been effected.

With a view to establishing local county health departments as rapidly as practicable, it is the consensus of your Committee that greater local appropriations for health work should be made, especially in those counties without health departments.

Deaths from diarrhoeal diseases, whooping cough and other preventable diseases, are still far too numerous and should be greatly curtailed. The infant mortality rate of 59.7 for each thousand births, is disgracefully high and can and should be lowered. It compares most favorably, however, with the rate of 77.5 in 1929.

It is suggested that local studies of the causes of infant and childhood mortality and morbidity, would be of great value in lowering the death rate among infants and children. Such a study could be conducted by each component society of the State Society and the results tabulated by this or some other committee with a view to recommending such measures as might seem desirable and necessary to improve the situation in a local community or in the State as a whole. Such efforts would complement those of the State or local health departments and not supersede them.

THE BLIND

The legislature of 1940 failed to heed the request of the Commission for the Blind for greater appropriations for the care of the blind. For that reason the Commission is unable to extend its work by employing another much needed full-time ophthalmologist and other trained workers. The work of the Commission is greatly handicapped.

SPECIAL CLASSES FOR HANDICAPPED CHILDREN

While the legislature increased the appropriation for vocational training by $50,000, it did not increase the appropriations for handicapped children.

The Department of Education, however, borrowed from the National Society for the Hard of Hearing, a group Audiometer, with which tests were run in Charlotte and Albermarle Counties. As a result of the tests the Department has purchased a group Audiometer which will be used in those sections which are unable to purchase a machine. The schedule now being made will keep the machine busy next year. Those found to have defective hearing will be given suitable care. This marks a long step forward in the care of the hard of hearing.

MENTAL HYGIENE

The facilities for training at the two "industrial" schools for the white delinquents and two "manual labor" schools for colored demand considerable expansion. There are approximately 800 children in these schools. The colony for white epileptics and feeble-minded at Lynchburg and that for the colored at Petersburg, cannot provide for all the feeble-minded requiring care, facilities still being inadequate. There are some 800 children outside institutions, under the care of the Department of Public Welfare.

The Mental Hygiene Program of Virginia, as formulated and approved by the last meeting of the Medical Society of Virginia, was presented to the legislature at the regular session in February, 1940. Unforeseen factors defeated the program at that time and as a result the situation remains about the same.

The State appropriation of $15,000 for the maintenance of a single Mental Hygiene Clinic located in the Medical College Clinic Building in Richmond, is a part of the Department of Public Welfare. This is the only facility for prevention and treatment of incipient mental diseases and various behavior problems throughout the State. The Medical College of Virginia and the University of Virginia Medical School maintain out-patient clinics but they are unable to reach outlying parts of the State. Since the last meeting, the State Hospital System has started clinics for paroled patients, radiating from the various mental hospitals, which is a great improvement.

Fundamentally, there is only the Mental Hygiene Clinic in Richmond to serve the 100 counties, including the schools, courts and social agencies in these areas, which is grossly inadequate to meet the demands at this time.

Large sums are being spent in providing care for those individuals who are unable to meet the conflicts of life but only a very small sum is provided to prevent such individuals from having this difficulty. The number of patients admitted to mental hospitals increases each year and the problem of juvenile delinquency is costing larger sums year after year, yet no effort is made to prevent such disorders.

To effectively combat these problems, it is necessary to have adequate clinical facilities with well-trained personnel to visit the cities, towns and counties for the purpose of studying and treating such individuals. The child of school age is at the logical point of attack and in order to reach these children the county must be visited. It is impossible to bring such children to a hospital or distant clinic for necessary examinations, to determine the cause of their difficulty.

CRIPPLED CHILDREN

A program for the care of crippled children with heart disease is now getting under way. It is supervised by the Crippled Children's Bureau.

A bright spot in the rather unsatisfactory legislative attitude toward child welfare is the Senate Joint Resolution No. 16, agreed to by both House and Senate, which directs the Virginia Advisory Legislative Council to "make a thorough investigation and study of the problems now existing in Virginia, relating to children and child welfare, including custody, placement, and foster home care of, and other matters affecting delinquent, dependent, defective and neglected children, the adequacy of the present facilities for providing such services, and the possibility and best methods for improving the State's program for the care of such children." The findings of the Council together with recommendations and suggested legislation are to be submitted to the Governor at least thirty days prior to the next regular session of the General Assembly.

To meet the minimum requirements of the mental hygiene situation in Virginia the following plan is believed to be efficient and economical and is recommended by the Committee.

1. Maintain a central clinic in Richmond.
2. Provide at least two traveling clinics.
3. Consolidate all mental hygiene facilities under one department, the State Board of Health.
4. Co-ordinate facilities with those of the Department of Education so that schools may utilize the clinics in helping children having difficulty in school.
5. Co-ordinate activities with those of the Department of Public Welfare in order to prevent duplication of effort by social workers and afford better follow-up of patients.
6. The entire cost of these clinics would be approximately $50,000 per year which is very small in comparison with the costly manner of dealing only with juvenile delinquency at this time.
7. A broad educational program dealing with mental hygiene is needed to gain widespread support of the above objectives. Each physician should help with the formulation of such a program.

R. D. BATES,
J. B. STONE,
JAMES N. WILLIAMS,
E. A. HARPER,
CHAS. E. CONRAD,
J. M. BISHOP,
L. T. ROYSTER,
WM. B. MCILWAINE,
F. D. WILSON,
Chairman.

Report of the Maternal Welfare Committee

Your Committee met January 15th in the Academy of Medicine Building for the following purposes: (1) To review progress made in maternal welfare work since our last meeting, (2) to work out details for a study of all maternal deaths, (3) to discuss proposed maternity hospital legislation, and (4) to prepare any reports that might be thought necessary for the Council of the Medical Society of Virginia which was to have a meeting the following day.

1. Charts prepared by the State Board of Health showed that there was a small but gradual decline in the total number of deliveries by midwives, an increase in the total number of deliveries by physicians and a small increase in the number of hospital deliveries. There has been a gradual decline in the maternal mortality rate for Virginia since 1932. It was pointed out that the beginning of the drop in maternal mortality coincided with the beginning of postgraduate education in obstetrics by Dr. Lapham. The maternal mortality rate for Virginia is now five per 1,000 live births. The number of prenatal clinics in the State has increased from forty-nine in 1937 to seventy-four in 1939. The number at present (May 31st) is eighty-four. A bulletin on "Prenatal Care", which was prepared by the State Health Department and which was proof read and approved by each member of the Committee, was distributed.

2. After some discussion it was decided that data concerning each maternal death should be gathered by Drs. A. L. Carson, Jr., and L. L. Shamburger from the State Health Department. Charts bearing this data, but without the attendant's or hospital's name, are to be mailed to each member of the Committee in turn and at a subsequent meeting the notes and impressions of the members are to be studied, with a view of mapping out the work of the Committee for the future. Two batches of these reports are now on their rounds.

3. Proposed legislation for the licensing and supervision of all institutions accepting maternity cases was read and placed before the Committee for discussion. That there was a need for some legislation in regard to maternity hospitals, the Committee agreed. The details and phraseology of a proper statute was quite another matter. Even a suitable definition of a maternity hospital could not be agreed upon. The matter was referred to a subcommittee consisting of Dr. T. J. Williams and Dr. C. J. Andrews, which was instructed to make the necessary changes in the wording and have it introduced into the legislature. The bill as drafted by the subcommittee has since been passed by the legislature.

4. No reports for the Council of the Medical Society of Virginia were made at the time. The Committee requests that the same appropriation for postage and incidentals be made next year.

C. J. ANDREWS,
T. J. WILLIAMS,
J. A. OWEN,
E. B. KILBY,
C. T. JONES,
A. M. GROSECLOSE,
M. P. RUCKER,
Chairman.

Report of Walter Reed Memorial Commission

The Commission wishes to report that Belroi, the birthplace of Walter Reed, has been painted during the past year and the property is now in good physical condition. We wish the Society members would go to see the place when in the neighborhood.

We would like a continuance of the fire insurance on the house and also an appropriation of $60, or as much thereof as needed, for upkeep of the property during the coming year.

J. D. CLEMENTS,
JAMES W. SMITH,
CLARENCE PORTER JONES,
Chairman.

Report of the Committee to Arrange the Medical Program of the Virginia Conference of Social Work

The chairman of this Committee was notified by the President of the Conference of Social Work that the general program committee had decided not to have a special program for the Medical Care and Public Health Section, but asked that our Committee cooperate with the Committee for the Mental Hygiene Section.

In response to this request, the services of our Committee were offered to the Mental Hygiene Section. Two members of our Committee were asked to read papers. Dr. Fred P. Fletcher was unable to accept his assignment, and arrangements were made with Dr. P. H. Drewry, Jr., to take his place. Dr. Drewry read an excellent paper on "The Role of the General Practitioner in Mental Hygiene." The chairman presented a paper on "The Role of the Pediatrician in Mental Hygiene."

C. F. GRAHAM,
W. P. JACKSON,
D. C. WILSON,
FRED P. FLETCHER,
BASIL B. JONES,
Chairman

Report of the Pneumonia Commission

At a meeting of the Virginia Pneumonia Commission held in Richmond, May 28, 1940, a Pneumonia Control Program was presented by the State Epidemiologist, Dr. William Grossman. The plan was developed by the State Department of Health and will be instrumented by funds appropriated by the General Assembly in 1940 and by grants-in-aid from the Federal Government. The Virginia Pneumonia Commission not only endorses this program but will assist in carrying it out. The proposal approved by the Commission is embodied in the following paragraphs quoted from the typewritten statement of Dr. Grossman:

The cooperative efforts of the Pneumonia Commission of the Medical Society of Virginia, the Pneumonia Control Laboratories, and the State Department of Health begun in January, 1939, though unquestionably contributing toward the earlier diagnosis and the institution of adequate therapy in many cases, have, because of the very limited funds previously available, been definitely restricted in regard to the services which could be provided. These services have consisted principally in the provision of typing facilities and the establishment of serum depots in thirty-four clinical and public health laboratories located in strategic points throughout the State. An appropriation by the 1940 General Assembly of Virginia of $8,000 for each year of the next biennium for the control of pneumonia and the allotment of additional Social Security funds through the United States Public Health Service has made possible the formulation of a more effective program in Virginia.

Arrangements are now being completed for the inauguration of a program designed to provide more material aid to the medical profession in reducing pneumonia mortality. Specific drugs and type specific sera will be furnished without cost to pneumonia patients who are unable to pay for them. Laboratory services which will enable more prompt and accurate diagnosis and facilitate adequate care and treatment of medically indigent pneumonia patients will also be provided without charge. These facilities will be available at the request of the physicians of Virginia and their requests for the services and medicaments will be accepted as indicating that the patients are entitled to receive them.

Clinical and public health laboratories which meet the standards of the State Department of Health will be designated as pneumonia control stations. The thirty-four laboratories at present cooperating with the Department will be continued and additional ones will be established after inspection and approval. Their selection will be determined according to their geographic location in relation to the need of service in that area. In cities maintaining a full-time health department the services will be provided through the local public health laboratory or a clinical laboratory designated by the local health authorities.

These laboratories will perform certain essential laboratory examinations without cost to the patient and will be reimbursed by the State Health Department in accordance with an approved fee schedule. They will also serve as depots for the distribution of specific drugs and sera.

Containers for specimens will be furnished the cooperating laboratories. Blood culture bottles will be supplied for this examination and blood tubes containing sodium oxalate will be furnished for the collection of blood for hemogram and blood sulfapyridine determination as well as the necessary reagents and equipment for this latter test. The State Department of Health will continue to provide a fresh supply of typing sera to all control stations. Arrangements will be made to provide training for technicians in the performance of the blood sulfapyridine test.

The following therapeutic materials will be furnished each pneumonia control station for distribution to physicians for the treatment of medically indigent pneumonia patients:

THERAPEUTIC MATERIALS

Sulfapyridine

Sulfapyridine will be furnished for all cases provisionally diagnosed as pneumonia. Unless a larger amount is requested 25 grams will be issued at a time. The drug will be dispersed in ½ gram tablets and in ¼ gram capsules.

Antipneumococcic Sera

Antipneumococcic serum will be furnished for all cases which do not respond promptly (twenty-four-forty-eight hours) to sulfapyridine, or in which the drug is otherwise contraindicated or if in the judgment of the physician it should be given in preference to or in conjunction with the drug, provided a type diagnosis has been made. Sera for types I, II, V, VII, VIII, and XIV will be stocked at all pneumonia stations. Sera for the other types will be stocked only in the State Health Department, Rich-

mond, Virginia, but will be available for delivery within twenty-four hours at all times.

The record forms necessary for the administration and subsequent appraisal of the program have been designed with the objective of making them as simple and practical as is consistent with the information necessary for these purposes. The field records are three in number and have been incorporated on cards of postal card size. The *request card* is to be used by physician in securing services (therapeutic or laboratory) for his medically indigent pneumonia patients and must be signed before this service can be rendered. The reverse side of this card provides space for the laboratory to check the materials issued in compliance with the physician's request. If laboratory tests are performed a report of these tests must be made on the second record form by the laboratory making such tests. This *laboratory report card* also serves as a request to the State Health Department for reimbursement for the examinations which have been made. All request cards and laboratory report cards are forwarded by the control stations to the State Department of Health twice a month; on the fifteenth and on the last day of the month. The cards are not to be forwarded however until the individual cases have either terminated clinically or if this is not known, until two weeks have elapsed since the last request on that individual was received. The *case report card* is to be executed for each case by the attending physician and the reverse side is addressed to the State Department of Health and requires no postage for mailing. These cards are illustrated on the following pages.

The cooperation of the Pneumonia Commission with the State Health Department in the formulation and execution of plans for the pneumonia program has been of particular value. The advice and assistance of the Commission has contributed much toward the promotion of satisfactory cooperation and mutual understanding between the health agencies and the medical profession. With the expansion of the program the need for this advisory committee becomes even more apparent. In addition to its role of counsel, it is believed that active participation of the Commission in carrying out a *pro-*

REQUEST CARD

Virginia Dept. of Health — **PHYSICIAN'S REQUEST CARD** — Pneumonia Control

Name of Patient — Address

Laboratory Examinations:
Pneumococcus Typing ☐
Blood Culture ☐
Hemoglobin ☐
Red Cell Count ☐
White Cell Count ☐
Differential Count ☐
Urinalysis + Complete ☐
Urinalysis + Blood Only ☐
Blood Sulfapyridine ☐

Therapeutic Materials:
Sulfapyridine Tablets (½ gm.) ☐
Sulfapyridine Capsules (¼ gm.) ☐
Antipneumococcic Serum (Horse) ☐
Antipneumococcic Serum (Rabbit) ☐

This side to be completely filled out and signed by attending physician. Check desired requests.

The examinations and/or materials requested are for the care of the indigent pneumonia patient named above.

(Signed) _____ M. D.

C. D. Form PN1

(Physician fills out this side. (Front.)

This side of card to be filled out by physician requesting examinations and/or therapeutic materials and presented to the Pneumonia Station. Only written requests on this form will be honored and a new card must be executed each time a new request is made.

THIS SIDE TO BE FILLED IN BY PNEUMONIA STATION

MATERIALS ISSUED

Therapeutic Materials:
Sulfapyridine _____ gms.
Tablets ☐
Capsules ☐
Serum _____ units
Type _____
Horse ☐ Rabbit ☐
Lot Number _____

Containers: Number
Sputum _____
Blood _____
Blood Culture _____
Urine _____

A case report card is to be given with each new patient request.

Date _____ Issued By _____

Laboratory _____

This card is to be forwarded by the Pneumonia Station to the State Health Dept. Richmond, Va.

Pneumonia Station fills out this side and forwards card to Virginia Department of Health (Back).

This side is to be filled in by the Pneumonia Station if containers or therapeutic materials are issued. If laboratory examinations are performed a report must be made on the "Report of Laboratory Examinations card (C. D. Form PN).

Request cards are to be forwarded only after termination of the case or if this is not known, after two weeks have elapsed since the last request for that patient.

Request cards and laboratory reports are to be mailed to the State Department of Health twice a month—on the fifteenth and the last day of the month.

LABORATORY REPORT CARD

Virginia Dept. of Health — REPORT OF LABORATORY EXAMINATIONS — Pneumonia Control

Laboratory — Number

Patient — Physician

DATE	EXAMINATION	RESULT	

C. D. Form PN2

Pneumonia Station fills out both sides of this card and forwards to Virginia Department of Health (Front).

One card for each individual patient is filled out by the laboratory showing all examinations performed. When signed by the director of the laboratory this card serves as a request for payment for the laboratory services rendered the patient.
The station may make a duplicate of this card for its own files, or may keep its own records according to whatever system it wishes.

DATE	EXAMINATION	RESULT	

Request is hereby made for payment, according to the agreed fee schedule, for the examinations shown hereon performed without charge for the patient named.

(Signed)_____
Director of Laboratory

Approved_____ Paid by Voucher No._____

Cases are to be forwarded twice a month—on the fifteenth and on the last day of the month (Back).

The report of laboratory examinations on the above card is to be forwarded to the State Health Department only on termination of the clinical case or if this is not known after two weeks have elapsed since the last request on that patient. All request cards for that patient are to be forwarded at the same time.

fessional informative program will greatly facilitate the accomplishment of the most desirable results of the pneumonia control activities.

The principal activities of the Virginia Pneumonia Control program are incorporated in the following outline:

MAJOR ACTIVITIES OF THE VIRGINIA PNEUMONIA CONTROL PROGRAM

Pneumonia Commission of the Medical Society of Virginia

(1) To serve in advisory capacity of State Health Department in the formulation of plans and administration of the Pneumonia Control Program.
(2) Members to conduct or arrange for symposia and formal and informal presentations on pneumonia therapy for component groups of the Medical Society.
(3) To prepare information for distribution to the medical profession regarding care and treatment of pneumonia.

Virginia State Department of Health

(1) Administer pneumonia program, compile statistics and information and serve in consulting capacity to local health departments and other agencies in planning and administration of special programs for pneumonia control.
(2) Inspect and approve laboratories serving as Pneumonia Control Stations.
(3) Provide training in special laboratory procedures for technicians of cooperating laboratories.
(4) Furnish sulfapyridine and specific antipneumococcic sera for medically indigent cases of pneumonia.
(5) Reimburse cooperating laboratories for examinations performed for medically indigent cases according to fee schedule.
(6) Furnish necessary containers, reagents and materials for laboratory examinations for pneumonia.
(7) Furnish all necessary record forms for the execution of the program.

Pneumonia Control Stations

(1) Distribute drugs and sera for treatment of medically indigent pneumonia cases at the request of physicians.

CASE REPORT CARD

Virginia Dept. of Health — PNEUMONIA CASE REPORT — Pneumonia Control

Name of Patient ____ Age ____ Sex ____ Color ____

Address ____ County ____

Diagnosis: Lobar Pneumonia ☐ Broncho Pneumonia ☐ Other ☐

Date of Onset: ____ Case Treated at: ____ Home ☐ Hospital ☐

Treatment: Sulfapyridine ____ Total Grams ____ Serum ____ Total Units ____

Outcome: ____ Recovered ☐ Died ☐

Complications: ____

Remarks: ____

(Signed) ____ M. D.

C. D. Form PN3

Physician fills out this side.

This side to be filled in by attending physician at termination of clinical course of the pneumonia and mailed to State Department of Health.

Physician is given a report card by the Pneumonia Station for each new patient request made to laboratory.

Postage Will be Paid by Addressee

No Postage Stamp Necessary if Mailed in the United States

BUSINESS REPLY CARD
First Class Permit No. 1380 (Sec. 510 P. L. & R.) Richmond, Va.

State Department of Health
713 State Office Building
Richmond, Virginia

(2) Perform specified examinations on pneumonia cases at the request of physicians.
(3) Distribute case report cards to physicians on each new patient request.
(4) Report all disbursements of drugs, sera, and supplies to State Health Department.

Physicians
(1) Make written requests for necessary therapeutic materials and/or laboratory examinations for medically indigent cases of pneumonia.
(2) Fill out pneumonia case report card at termination of case and forward to State Health Department.

PNEUMONIA TYPING STATIONS

City or Town	*County*	*Laboratory*
Abingdon	Washington	District Laboratory
Alexandria	Arlington	Alexandria Hospital
Arlington	Arlington	Arlington County Health Dept.
Charlottesville	Albemarle	Univ. of Va. Hospital
Christiansburg	Montgomery	New Altamont Hospital
Clifton Forge	Alleghany	Clifton Forge Hospital
Covington	Alleghany	Covington General Hospital
Danville	Pittsylvania	Danville City Health Dept.
Farmville	Prince Edward	Southside Community Hospital
Franklin	Southampton	Raiford Hospital
Fredericksburg	Spotsylvania	Mary Washington Hospital
Galax	Grayson	Galax Hospital and Clinic
Harrisonburg	Rockingham	Rockingham Memorial Hospital
Kenbridge	Lunenburg	Freeman, Kendig & Showalter Clinic
Lexington	Rockbridge	Jackson Memorial Hospital
Luray	Page	District Laboratory
Lynchburg	Campbell	Lynchburg City Health Dept.
Marion	Smyth	Southwestern State Hospital

Martinsville	Henry	Shackelford Hospital
Nassawadox	Northampton	Northampton-Accomac Memorial Hospital
Newport News	Warwick	Elizabeth Buxton Hospital
Norfolk	Norfolk	Norfolk City Health Dept.
Norton	Wise	District Laboratory
Pennington Gap	Lee	Lee General Hospital
Pulaski	Pulaski	Pulaski Hospital, Inc.
Richlands	Tazewell	Mattie Williams Hospital
Richmond	Henrico	State Laboratory
Roanoke	Roanoke	Roanoke City Health Dept.
South Boston	Halifax	South Boston Hospital
Staunton	Augusta	King's Daughters' Hospital
Suffolk	Nansemond	Lakeview Hospital
Suffolk	Nansemond	Virginia Hospital
Williamsburg	James City	Bell Hospital
Winchester	Frederick	Winchester Memorial Hospital

It is anticipated that the administrative and field work necessary to launch this plan will have been completed by midsummer and it is expected that the program itself will be put into operation during the month of September. In adopting it, Virginia is falling in line with such States as Massachusetts, New York and Pennsylvania. It is expected that the mass reduction in pneumonia mortality which has been observed in those states will now become one of the contributions of the medical profession of Virginia and the State Department of Health to the people of the State.

H. B. MULHOLLAND,
P. S. SMITH,
HARRY WALKER,
GEO. B. LAWSON,
WYNDHAM B. BLANTON,
Chairman.

Report of Committee to Confer with State Board of Nurses' Examiners

The Committee has no report to make as the Nurses' Board has presented no matter for consideration.

JOSEPH T. BUXTON,
C. B. MORTON,
FRANK S. JOHNS,
ELISHA BARKSDALE,
W. LOWNDES PEPLE,
Chairman.

Report of Committee on Syphilis Control

TO THE MEMBERS OF THE HOUSE OF DELEGATES:

The syphilis premarital bill passed by the General Assembly and becoming effective August 1, 1940, includes a slight change from the proposal presented at this gathering last year. This change includes the provision that if any person having syphilis shall marry, such person shall be required to take treatment as long as necessary to prevent spread of the disease and to cure the infection as shall be prescribed by the State Health Commissioner. This change was accepted by the members of this committee and by the State Health Department after discussions with representatives of several State groups.

Since the premarital law is somewhat difficult to interpret, a brief summary of its provisions is given:

It requires blood tests on all marriage applicants.

It has safeguards to protect against laboratory mistakes by requiring a positive to be repeated and requiring a history and physical examination on those with positive serology.

It will give all marriage license applicants an opportunity for the advice of a registered physician.

It will not tend to increase illegitimacy in Virginia because it does not prohibit marriage. If syphilis exists it requires the physician to inform in person both parties of the nature of the disease and its dangers.

It will require taking treatment by those marrying who need it.

It will not necessarily increase the expense of marriage to the individual because all health officers and venereal disease clinic physicians will furnish the statements without charge to those unable to pay a private physician.

It will tend to stop Virginia couples going to other States to marry.

In addition to causing a certain waiting period before marriage, this law will cause many cases of syphilis to be disclosed at a time that is most important to find them.

The primary considerations in this law are the educational features. Since it is thought to represent more exactly the physician's viewpoint in dealing with the syphilis problem, it is thought proper that those practicing medicine in Virginia do all they can to make this law popular by accepting and observing its provisions without complaint. Help keep up public interest in the law by voicing approval and speaking of the advantages and benefits it confers. If you run into some of the difficulties, or imperfections, in the application of this law, please pass your criticisms to your Syphilis Control Committee so that they may plan a remedy in future legislation.

Dr. Ennion S. Williams worked untiringly and efficiently to get this law perfected and passed. The value of his planning and diligence in working over two years in this committee (before resigning as chairman) and the value of his appearances before the Committees of the General Assembly, entitles him to full credit for the successful passage of this bill as well as to the thanks of this body and the medical profession of our State.

This committee has worked with the State Health Department recently in preparing a forthcoming bulletin for Statewide distribution on the Diagnosis and Treatment of Syphilis.

The report of the State Health Department's activities in Syphilis Control work for the year will be included with this report for publication with the minutes of this meeting. This delay is because their fiscal year ends on July 1st.

DUDLEY C. SMITH,
E. E. BARKSDALE,
J. W. LOVE,
RAYMOND KIMBROUGH, *Chairman.*

Report of Tuberculosis Committee

The full membership was present at a meeting held on March 4, 1940, to discuss problems of interest to this Committee.

The tuberculosis program in Virginia, conducted by the official and volunteer agencies, has shown a marked expansion since the Committee's last report in July, 1939.

The Seal Sale of the Virginia Tuberculosis Association for the year 1939 amounted to $122,608.05, an increase of 8 per cent over the previous year. This organization is sponsoring a complete educational program throughout the State.

Virginia's tuberculosis death rate showed a marked decrease for the past year. In 1939 there were 1,612* deaths from tuberculosis, all forms, while in 1938 there were 1,809 deaths from tuberculosis, all forms,—a decrease of 197 deaths.

TUBERCULIN X-RAY CLINICS

The two mobile X-ray units, each staffed by a clinician, historian and technician, will reach seventy-six of the one hundred counties in the State for a week or more of clinic service for the current fiscal year. One unit operates in the Eastern and the other in the Western division of the State. These clinics are largely consultative and all patients are referred by their family physician. Approximately 10,000 persons are examined annually. Chest clinics are being held in another county once every three months.

The building program at the State Sanatoria has been completed. The white beds have been increased by 180 and the colored by 115. The present bed capacity is, as follows:

Catawba	420	
Blue Ridge	370	(forty-bed preventorium)
Piedmont	265	(forty-bed preventorium)

COLLAPSE THERAPY PROGRAM

Since the organization of the collapse therapy program, eighteen months ago, forty-eight pneumothorax stations are being operated by local physicians at widely scattered points throughout the State. At the present time, 430 patients are receiving treatments at these clinics.

The King's Daughters' Hospital, Portsmouth, has been added to our list of privately-owned general hospitals doing chest surgery. The following operations were done in these hospitals for the past eight months:

83 patients	114	thoracoplasties
4 patients	4	phrenics
20 patients	20	pneumonolyses
2 patients	2	bronchoscopic examinations)
109 Total pts.	138	operations

Collapse therapy, in and out of the sanatoria, has done much to convert positive into negative sputums and has been of more value from a public health standpoint than any other procedure in the control of tuberculosis in Virginia.

*These figures are provisional.

SPECIAL STUDIES

Paper films, developed by Powers X-ray Products Company, Inc., were used in the following institutions during the past eight months:

Farmville State Teachers College, Farmville.
Roanoke Tuberculosis Association, Roanoke.
Randolph-Macon College, Ashland.
Mary Washington College, Fredericksburg.
Hollins College, Roanoke.

A schedule has been made out for additional surveys for the remainder of this fiscal year.

It is of interest to know that thirty-one of the forty-nine roentgenologists making a comparative study of paper and celluloid films for the Air Hygiene Foundation of America conclude that this method is satisfactory for preliminary surveys of large groups of individuals.

TUBERCULOSIS COMMITTEES IN LOCAL MEDICAL SOCIETIES

At the suggestion of the Committee for the Advancement of Tuberculosis in Medicine of the American College of Chest Physicians, an effort will be made to set up a committee in all of the district medical societies in the State.

NURSES' TRAINING SCHOOLS

We are of the opinion that the teaching of tuberculosis in nurses' training schools is inadequate. The Committee proposes to prepare and furnish a text on tuberculosis to all training schools in the State that would like to have this book.

POSTGRADUATE

It was decided to have another round-table X-ray conference at the forthcoming joint meeting of the State Medical Society with West Virginia. Plans are being formulated for postgraduate group meetings at the State Sanatoria during the summer. These meetings will be arranged by the Sanatoria staffs for men operating pneumothorax stations, and any other physicians that wish to attend.

PUBLIC SCHOOLS

There has been considerable interest during the past year among local school boards and P.T.A. in regard to X-raying the chests of all public school teachers. Several counties already require this examination before teachers are accepted. It is interesting to note that four of the State normal schools have X-rayed their student body during the past year.

RECOMMENDATIONS OF THE COMMITTEE

1. The Committee recommends that all public school teachers have chest X-rays made before being employed to teach in the public schools of Virginia.

2. There is a definite need for more beds for negro patients. The addition to Piedmont Sanatorium is only partially taking care of the presenting waiting list.

3. That an effort be made to improve the instruction of tuberculosis in training schools in the State.

4. Postgraduate instruction be arranged at Sanatoria.

Respectfully submitted:

DEAN B. COLE,
FRANK B. STAFFORD,
EDGAR C. HARPER, *Chairman.*

XUM

Report of the Advisory Committee to the State Health Department

This Committee has had no meeting since it has not been called upon by the State Health Department. The chairman, however, has corresponded with the members of his Committee and saw the State Health Commissioner personally last November.

W. O. BAILEY,
W. P. GILMER,
C. H. PETERSON,
P. Q. DANIEL
J. M. LYNCH,
E. G. SCOTT,
Chairman.

Report of the Cancer Committee to the House of Delegates

The Cancer Committee has had four meetings during the current year, for the purpose of further coordinating the campaign against cancer in Virginia. Under its guidance the Virginia Cancer Foundation in affiliation with the American Society for the Control of Cancer has now become the sole lay body dealing with cancer problems in Virginia. The place of the medical profession as the controlling factor in any campaign against cancer is thoroughly recognized by the Virginia Cancer Foundation. The connection between this Committee and the Virginia Cancer Foundation has become sufficiently close to insure continuation of the influence of the Medical Society of Virginia in this work.

No additional Tumor Clinics for the care of indigent cancer patients have been certificated by this Committee during the past year.

This Committee desires to present to the membership of the House of Delegates the importance of local cancer committees in each of the component societies of the State. In the work for indigent cancer patients and in the educational campaign which are carried on by the Virginia Cancer Foundation, such local committees to which problems can be referred and from which local speakers may be obtained will prove of great help. Up to the present date, only a fraction of the component societies of the Medical Society of Virginia have appointed such committees.

A meeting of this Committee will be held prior to the meeting of the House of Delegates and a supplemental report will be prepared.

The chairman desires herein to express his appreciation to the membership of the Committee for arduous work and loyal support during the past year.

EDWIN P. LEHMAN,
Chairman.

Report of the Committee on Industrial Health

TO THE MEMBERS OF THE HOUSE OF DELEGATES:

The Committee on Industrial Health of the Medical Society of Virginia has had one meeting during the year and has carried on some correspondence.

We have succeeded in getting the American Medical Association's Council on Industrial Health to put on its own exhibit at the joint meeting at White Sulphur Springs on July 29, 30, and 31, and we helped to get Dr. Carl M. Peterson, secretary of the Council on Industrial Health of the American Medical Association, a fifteen-minute period on the program at White Sulphur.

Due to a better understanding of the value of industrial medicine as an adult health program by membership on this committee, teaching of the industrial medicine and health has been considerably increased in the Medical College of Virginia over the last year. In addition to the hours given to industrial hygiene in the curriculum, five of the senior medical students elected industrial health as their month's elective study. This made the equivalent of one-eighth of the senior medical year for these five students devoted entirely to industrial health and medicine.

In addition to this, the interest in industrial medicine and health has developed to the point that the Virginia Manufacturers Association and the Richmond Chamber of Commerce are uniting with the Medical College of Virginia in cooperation with the Department of Clinical and Medical Education of the Medical Society of Virginia, in putting on a symposium on industrial health on September 12 and 13, 1940, in the Baruch Auditorium in the Medical College of Virginia. This program is now made up and includes some of the leading industrial hygienists and surgeons in the country.

At the invitation of the secretary of the Council, the chairman of the Committee attended the recent meeting of the American Medical Association's Council on Industrial Health and took part in the round-table discussion on functions and organizations of industrial health committees in the State medical societies. A number of the other State societies were represented.

The Committee has felt that with only three members, as we have had since its organization two years ago, it is too limited to reach the profession as it should be reached. The Committee, therefore, recommends to the Medical Society of Virginia that in the future appointments to the Committee should be governed by the selection of one or more representatives from each of the following groups:

1. Industrial medical practice.
2. Private practice.
3. State Health Department.
4. State Industrial Commission.
5. A physician from the industrial insurance companies operating in Virginia.
6. A physician selected by the Virginia Manufacturers Association.
7. A medical faculty member from each of the medical colleges.

Respectfully submitted,

C. B. BOWYER,
H. T. HAWKINS,
F. J. WAMPLER,
Chairman.

Report of Delegates to the American Medical Association

NEW YORK CITY, JUNE 10-14, 1940

Your delegates, Dr. Wright Clarkson, Dr. Walter Martin, and Dr. Carrington Williams attended all of the sessions of the House of Delegates at the meeting in New York. It was announced that the attendance at this meeting exceeded all others and was in excess of 12,000 before the final day. The scientific sessions were well attended and the scientific exhibits were of very high class and attracted large crowds. The meetings of the House of Delegates were also well attended and there was almost complete unanimity of opinion. Several matters of great importance were considered.

The first had to do with the bill which has passed the United States Senate and is now pending in the House concerning appropriations for hospital construction. This plan was endorsed by the officers and committee of the American Medical Association but, since this endorsement, has been very materially changed. The changes which are now included in the present bill and which are not approved by the American Medical Association are:

That the hospital has been defined to include diagnostic and treatment centers and the program has been extended to five years instead of one, while the Board which is to consist of physicians is authorized for only one year. $10,000,000 has been appropriated for one year and $66,000,000 is contemplated for the five-year period. The hospitals consist of 100 beds and it is planned to build them for $150,000. They are expected to be placed where need exists and where the community can show evidence of ability to support the hospital after it is constructed. The locations must be approved by the above mentioned Board, the United States Public Health Service, the State Health Commissioner, and responsible local people. The title of these hospitals is to remain in the United States Government. The House of Delegates recommends that the State Associations notify their representatives in Congress of the differences in the bill as it now exists from the one approved by the A. M. A. The State Society is asked to appoint a committee to cooperate with the Health Commissioner in locating these hospitals. The delegates recommend the present Advisory Committee to the Health Commissioner for assisting in this duty.

The most important item of business was the question of cooperation of the medical profession with the Government in their efforts for military preparedness. Colonel Dunham, the representative of the United States Army Medical Corps in the House of Delegates, states that the Board of Trustees had previously offered to the Government the full facilities and records of the American Medical Association. The House of Delegates approved a motion appointing a committee of ten members of the House of Delegates and five officers to cooperate with military and naval authorities in (1) classifying and recording physicians as to their specialities, ability, and willingness to serve, and (2) in calling on physicians for active service when the time arrives. It was stated that in Canada 90 per cent of the physicians volunteered for various types of service in the military establishment of Canada. Another motion was passed calling on the State Societies to stimulate local societies to formulate plans to protect the practice and incomes of physicians who enter the military service both for periods of training and for active service. The importance of the whole matter of military preparedness needs no further elaboration in this report.

A reapportionment of delegates was made whereby in the future one delegate will be allowed to the State Society for each 930 members. This will result in the loss of one delegate from our State Society.

San Francisco, California, was selected as the place of meeting for 1943. Previous selections are Atlantic City, N. J., for 1942, and Cleveland, Ohio, for 1941.

Dr. Frank Lahey, of Boston, Mass., was elected President-elect.

The State associations were urged to take measures to acquaint themselves and their local societies with the activities of the American Medical Association.

Respectfully submitted,

WRIGHT CLARKSON,
WALTER B. MARTIN,
CARRINGTON WILLIAMS,
Delegates.

Report of Delegates to Virginia State-Wide Safety Conference

The medical division of the State-Wide Safety Conference was limited to the Coal Mining Section in which a paper was presented by the Honorable W. H. Nicholas of the Industrial Commission of Virginia. This was followed by a discussion of Industrial Accidents and Rehabilitation by Dr. Roy M. Hoover, of Roanoke, Va. In this discussion emphasis was placed upon the facts that our industrial accident cases are potential rehabilitation cases. Early, thorough, adequate treatment was emphasized, with the necessity of the early return to selective adapted work. This paper was followed by Mr. W. K. Barnett, of the State Rehabilitation Commission, who placed special emphasis on the desirability of industrial plants and crafts rehabilitating their own injured cases in lines of the work which are satisfactory.

W. R. WHITMAN,
JNO. F. CADDEN,
ROY M. HOOVER.

Report of Representative to Virginia Welfare Council

As delegate to the Virginia Welfare Council, I beg to submit the following report:

The Virginia Welfare Council held its annual meeting Thursday, April 18, 1940, at Roanoke, in conjunction with the Fortieth Annual Meeting of the Virginia Conference of Social Work. The program, while very short, was well attended.

At the morning session a paper, "Next Steps in Social Legislation in Virginia," was read by James W. Phillips,

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Assistant Commissioner of the State Department of Public Welfare, and then discussed by the following:

Dr. William H. Stauffer, Commissioner, State Department of Public Welfare;

L. L. Watts, Executive Secretary, Virginia Commission for the Blind;

W. L. Painter, Director, Children's Bureau, State Department of Public Welfare; and

F. D. Preston, General Secretary, Children's Home Society of Virginia.

In the afternoon papers on "Mental Hygiene" were read by Dr. H. C. Henry, Director of State Hospitals, and Dr. James P. King, St. Albans Sanatorium, Radford. "Probation, Parole, and Jail Reform" was then discussed by Honorable John B. Spiers, member of the House of Delegates, and Honorable Aubrey E. Strode, judge of the Lynchburg Corporation Court.

The session closed in the evening with an address on "Social Aspects of the Crime Problem," by Honorable James V. Bennett, Director of the Federal Bureau of Prisons in Washington.

I have but one recommendation to make in this matter—that we continue to send a delegate to the Virginia Welfare Council.

F. P. FLETCHER, M. D.

Report of Delegates to the Decennial Meeting of the U. S. Pharmacopeial Convention

On May 14 and 15 the decennial meeting of the United States Pharmacopeial Convention met in Washington, D. C., to lay plans and elect responsible officers and committeemen in preparation for the twelfth revision of the Pharmacopeia.

Some 500 delegates were in attendance representing the medical, dental, pharmacy, and related sciences. The Medical Society of Virginia was represented by Drs. J. A. Waddell, H. W. Miller, and H. B. Haag, appointed by President Hugh Trout. Dr. Waddell was elected the voting member for the delegation. Unfortunately, although each of our two medical schools was allowed three delegates (and as many alternates) only one of these representatives, Dr. R. J. Main, was present at roll call.

The meetings were highly indicative of renewed interest in the Pharmacopeia, particularly by the medical group. As a result of considerable constructive thought by both the medical and pharmacy interests, many of the outmoded, cumbersome and sometimes unrepresentative practices of the Convention were proposed for discard in favor of a more progressive and equitable program. Unless signs mean nothing, the Pharmacopeia promises to become a much more useful, practical and important book to the physician than it has been.

Dr. Walter A. Bastedo, President of the Convention, presided over the official meetings in a most masterful and gracious manner. He was succeeded in office by Dr. C. W. Edmunds, Professor of Pharmacology in the University of Michigan. The Board of Trustees will consist of Dr. E. F. Kelley, Secretary of the American Pharmaceutical Association, Dr. E. C. Little, Dean, Rutgers School of Pharmacy, R. L. Swain, editor of *Drug Topics and Drug Trade News*, Dr. W. A. Bastedo and Dr. Morris Fishbein, editor of the *Journal of the American Medical Association*.

The Revision Committee, upon the members of which rests the major responsibility of performing the actual work of revising the Pharmacopeia, was elected consisting of fifty members, one-third being representatives from the medical group and two-thirds from the pharmaceutical representatives. The personnel of this Committee is as follows:

Dr. Henry G. Barbour, New Haven, Conn.
Dr. Walter A. Bastedo, New York, N. Y.
George D. Beal, Ph.D., Pittsburgh, Pa.
Francis E. Bibbins, B.S., Indianapolis, Ind.
Dr. Charles L. Brown, Merion Station, Pa.
Joseph B. Burt, Ph.D., Lincoln, Nebr.
Dr. William B. Castle, Boston, Mass.
Clifford W. Chapman, Ph.D., Baltimore, Md.
Bernard V. Christensen, Ph.D., Columbus, Ohio.
E. Fullerton Cook, Pharm. M., Philadelphia, Pa.
Dr. Arthur C. DeGraff, New York, N. Y.
Dr. Marion S. Dooley, Syracuse, N. Y.
Dr. Carl A. Dragstedt, Chicago, Ill.
J. Leon Lascoff, Pharm. D., New York, N. Y.
Charles O. Lee, Ph.D., Lafayette, Ind.
Asa B. Lemon, Pharm. D., Buffalo, N. Y.
Dr. Perrin H. Long, Baltimore, Md.
Dr. Eli K. Marshall, Jr., Baltimore, Md.
Dr. George W. McCoy, New Orleans, La.
Dr. Walter L. Mendenhall, Boston, Mass.
Hugh C. Muldoon, Sc.D., Pittsburgh, Pa.
Dr. Erwin E. Nelson, New Orleans, La.
E. L. Newcomb, Pharm. M., New York, N. Y.
Charles Leonard O'Connell, Pharm. D., Pittsburgh, Pa.
Justin L. Powers, Ph.D., Washington, D. C.
Andrew G. DuMez, Ph.D., Baltimore, Md.
Robert P. Fischelis, Pharm. D., Trenton, N. J.
Perry A Foote, Ph.D., Gainesville, Fla.
Dr. Harry Gold, New York, N. Y.
Forest J. Goodrich, Ph.D., Seattle, Wash.
Lloyd E. Harris, Ph.D., Norman, Okla.
Thomas J. Hill, D.D.S., Cleveland, Ohio.
M. L. Jacobs, Ph.D., Chapel Hill, N. C.
Glenn L. Jenkins, Ph.D., Minneapolis, Minn.
Charles B. Jordan, D.Sc., Lafayette, Ind.
John C. Krantz, Jr., Ph.D., Baltimore, Md.
Henry A. Langenham, Ph.D., Mercer Island, Wash.
J. Allen Reese, Ph.D., Richmond, Va.
Leon W. Richards, Ph.D., Missoula, Mont.
George C. Schicks, Ph.C., Upper Montclair, N. J.
Carl L. A. Schmidt, Ph.D., Berkeley, Calif.
A. John Schwarz, Ph.D., Memphis, Tenn.
Leonard A. Seltzer, Sc.D., Detroit, Mich.
Dr. Virgil E. Simpson, Louisville, Ky.
Dr. Isaac Starr, Philadelphia, Pa.
Frank O. Taylor, Ph.C., Detroit, Mich.
Dr. Soma Weiss, Boston, Mass.
Elmer H. Wirth, Ph.D., Chicago, Ill.
Heber W. Youngken, Sc.D., Boston, Mass.
Louis C. Zopf, Ph.G., Iowa City, Iowa.

Editorially the *J.A.M.A.* (*114*, 2116, 1940) very well summarizes the impressions gathered by the delegates relative to the significance of this convention when it states: "The Pharmacopoeial Convention of 1940 represents the fruitful union of the most progressive elements of both medicine and pharmacy and should result in the production of the best pharmacopeia in the world."

J. A. WADDELL,
H. W. MILLER,
H. B. HAAG, *Delegates.*

PROGRAM

(PRELIMINARY)

JOINT MEETING

MEDICAL SOCIETY OF VIRGINIA

and

WEST VIRGINIA STATE MEDICAL ASSOCIATION

July 29, 30 and 31, 1940

WHITE SULPHUR SPRINGS, WEST VIRGINIA

Headquarters—GREENBRIER HOTEL

GENERAL SCIENTIFIC ASSEMBLY
Auditorium, Greenbrier Hotel
Monday Morning, July 29
9:30 A. M.

Presiding: Dr. Hugh H. Trout, President, Medical Society of Virginia. Dr. Frank V. Langfitt, President, West Virginia State Medical Association.

SCIENTIFIC PROGRAM

"Management of Urinary Infections in Childhood."
DR. RALPH M. TYSON, Philadelphia, Pa.

Discussion:
Dr. Russell Bond, Wheeling, W. Va.
Dr. W. W. Waddell, Jr., University, Va.

"The Orthopedic Treatment of Arthritis."
DR. GEORGE E. BENNETT, Baltimore, Md.

Discussion:
Dr. Justus C. Pickett, Morgantown, W. Va.
Dr. H. H. Wescott, Roanoke, Va.

"The A.M.A. Bureau of Industrial Health."
DR. C. M. PETERSON, Director, Chicago, Ill.

"Lesions of the Small Bowel."
DR. ROSS GOLDEN, New York, N. Y.

Discussion:
Dr. J. E. Wilson, Clarksburg, W. Va.
Dr. Vincent W. Archer, University, Va.

Monday Afternoon, July 29
2:30 to 4:30 P. M.

Round Table on Pediatrics with Dr. Ralph M. Tyson.
Round Table on Industrial Medicine with Dr. George E. Bennett and Dr. C. M. Peterson.
Round Table on Radiology with Dr. Ross Golden.

Monday Afternoon, July 29
4:30 to 6:30 P. M.

Meetings of the House of Delegates of both Societies.

Tuesday Morning, July 30
9:30 A. M.

"The Patient Who Is Always Complaining."
DR. WALTER ALVAREZ, Rochester, Minnesota.

Discussion:
Dr. J. Morrison Hutcheson, Richmond, Va.
Dr. John P. Helmick, Fairmont, W. Va.

"Sinus Therapy."
DR. WESLEY C. BOWERS, New York City, N. Y.

Discussion:
Dr. Francis H. McGovern, Danville, Va.
Dr. William F. Beckner, Huntington, W. Va.

"The Female Bladder."
DR. A. I. FOLSOM, Dallas, Texas.

Discussion:
Dr. Herbert Wolff, Alexandria, Va.
Dr. W. L. Haltom, Martinsburg, W. Va.

Tuesday Afternoon, July 30
2:30 P. M.

ORATION ON MEDICINE.
DR. PAUL DUDLEY WHITE, Boston, Mass.

Tuesday Afternoon, July 30
3:00 P. M.

Round Table on Internal Medicine with Dr. Alvarez.
Round Table on Eye, Ear, Nose and Throat with Dr. Bowers.
Round Table on Urology with Dr. Folsom.

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Tuesday Evening, July 30
8:30 P. M.

PRESIDENTIAL ADDRESSES.

DR. FRANK V. LANGFITT, Clarksburg, W. Va.
DR. HUGH H. TROUT, Roanoke, Va.

(The House of Delegates of both societies will meet immediately following the Presidential Addresses.)

Wednesday Morning, July 31
9:30 A. M.

"The Delayed Treatment of Appendicitis."
DR. HARVEY B. STONE, Baltimore, Md.
Discussion:
Dr. Robert King Buford, Charleston, W. Va.
Dr. J. Bolling Jones, Petersburg, Va.

"The Treatment of Delirium."
DR. KARL M. BOWMAN, New York, N. Y.
Discussion:
Dr. Joseph R. Blalock, Marion, Va.
Dr. Archer A. Wilson, Charleston, W. Va.

"The Treatment of Pernicious Vomiting."
DR. FREDERICK C. IRVING, Boston, Mass.
Discussion:
Dr. E. Newton DuPuy, Beckley, W. Va.
Dr. C. J. Andrews, Norfolk, Va.

Wednesday Afternoon, July 31
2:30 P. M.

ORATION ON SURGERY.
DR. IRVIN ABELL, Louisville, Ky.

Wednesday Afternoon, July 31
3:00 P. M.

Round Table on Surgery with Dr. Harvey B. Stone and Dr. Irvin Abell.
Round Table on Heart with Dr. Paul White.
Round Table on Obstetrics with Dr. Frederick C. Irving.

Wednesday Evening, July 31
6:00 P. M.

Cocktail party honoring Governor James H. Price of Virginia, Governor Homer A. Holt of West Virginia, and United States Senator Harry Flood Byrd, Virginia.

Followed by

Annual Convention Banquet and Dance.

GUESTS OF HONOR

Irving Abell, M. D., Louisville, Kentucky; Past President American Medical Association; Clinical Professor of Surgery, University of Louisville School of Medicine.

Walter Alvarez, M. D., Rochester, Minnesota; Mayo Clinic; Professor of Medicine, University of Minnesota Graduate School of Medicine.

George E. Bennett, M. D., Baltimore; Associate Professor of Orthopedic Surgery, Johns Hopkins University School of Medicine.

Wesley C. Bowers, M. D., New York City; Fellow American Board of Otolaryngology.

Karl M. Bowman, M. D., New York City; Professor of Psychiatry, New York City College of Medicine.

Alfred I. Folsom, M. D., Dallas, Texas; Professor of Urology, Baylor University College of Medicine.

Ross Golden, M. D., New York City; Professor of Radiology, Columbia University College of Physicians and Surgeons.

Frederick C. Irving, M. D., Boston; Professor of Obstetrics, Harvard Medical and Harvard Graduate School of Medicine.

C. M. Peterson, M. D., Chicago; Secretary, Council on Industrial Health, American Medical Association.

Harvey B. Stone, M. D., Baltimore; Associate Professor of Surgery, Johns Hopkins University School of Medicine.

Ralph M. Tyson, M. D., Baltimore; Fellow American Board of Pediatrics.

Paul Dudley White, M. D., Boston; Massachusetts General Hospital and Fellow of American Board of Internal Medicine.

Scientific Exhibits

"Electroencephalogram", David C. Wilson, M. D., University of Virginia Hospital, University, Virginia.

"Miller Abbott Tube" (A Successful Method of Passing Same), William A. Johns, M. D., Oscar L. Hite, M. D., and Daniel D. Talley, M D., Richmond, Virginia.

"Lesions of the Small Bowel" (X-ray Demonstration), Vincent W. Archer, M. D., and George Cooper, Jr., M. D., University of Virginia Hospital, University, Virginia.

"Roentgen Therapy of Epitheliomas, Hemangiomas and Lymphangiomas", Fred M. Hodges, M. D., Lawrence O. Snead, M. D., and Raymond A. Berger, M. D., Richmond, Virginia

"Activities of the Virginia State Board of Health", I. C. Riggin, M. D., Richmond, Virginia.

"Results of the Use of the Bulgarian Treatment in Parkinsonism", R. Finley Gayle, Jr., M. D., Richmond, Virginia.

"Studies on Gastric Motility", E. J. VanLiere, M. D., West Virginia School of Medicine, Morgantown, West Virginia.

"Male Genital Tumors", C. C. Fenton, M. D., West Virginia School of Medicine, Morgantown, West Virginia.

"Fractures of the Neck of the Femur Treated by Internal Fixation", J. O. Rankin, M. D., Wheeling, West Virginia.

"Cardiovascular Disease", W. Putschar, M. D., Charleston General Hospital, Charleston, West Virginia.

"Foreign Bodies in the Air and Food Passages", Gill Memorial Eye, Ear, Nose and Throat Hospital, Roanoke, Virginia.

"Infant and Maternal Death Rates and Communicable Disease Control', West Virginia State Board of Health, Charleston, West Virginia.

"Logan County (W. Va.) Venereal Disease Control Project", Logan County Medical Society, West Virginia State Health Department and U. S. Public Health Service.

"Bronchiectasis", A. V. Cadden, M. D., and D. Salkin, M. D., Hopemont Sanatorium, Hopemont, West Virginia.

"Old Surgical Instruments", R. H. Walder, M. D., Mountain State Hospital, Charleston, West Virginia.

"Cancer of the Rectum", James R. Brown, M. D., Huntington, West Virginia.

"Exhibit of Malformations and Monsters", C. S. Dodds, M. D., West Virginia School of Medicine, Morgantown, West Virginia.

"Appendicitis Operative Technique and Results" (Moving Picture), J. Shelton Horsley, M. D., John S. Horsley, Jr., M. D., and Guy W. Horsley, M. D., Saint Elizabeth's Hospital, Richmond, Virginia.

"Cardiovascular-Renal Disease", Donald B. Armstrong, M. D., Metropolitan Life Insurance Company, New York, New York.

"Silicosis", Council on Industrial Health, American Medical Association, Chicago, Illinois.

"Plastic Operations for Hypospadias and Epispadias", Austin I. Dodson, M. D, and Charles M. Nelson M. D., Richmond, Virginia.

"Why Inguinal Hernia Recurs", Charles R. Robins, M. D., Stuart Circle Hospital, Richmond, Virginia.

"Antiques of Pediatric Interest" (Infant Nursing Bottles), Mead Johnson and Company, Evansville, Indiana.

"When 'Bobbie' Goes to School" (A Talking Movie), American Academy of Pediatrics in Cooperation with Mead Johnson and Company, Evansville, Indiana.

"U. S. P. and N. F. Committee", Virginia Pharmaceutical Association, Richmond, Virginia.

"Oxyuriasis", W. H. Wright, M. D., Division of Zoology, U. S. Public Health Service, National Institute of Health, Washington, D. C.

"Childhood Allergic Problems" (Usual Routine Employed in the Study), W. Ambrose McGee, M. D., Richmond, Virginia.

"Macroscopic Staining" (Unbreakable Museum Jars), Regena C. Beck, M. D., Stuart Circle Hospital, Richmond, Virginia.

"Diagnosis, Treatment and Control of Gonococcal Infections", Walter Clarke, M. D., American Social Hygiene Society, New York, New York.

"Postgraduate Medical Activities", Medical Society of Virginia, Richmond, Virginia.

"Diaphragmatic Hernia", Porter P. Vinson, M. D., Medical College of Virginia, Richmond, Virginia.

"Pictures of the Puerperal Cervix", M. Pierce Rucker, M. D., Richmond, Virginia.

"Growth of Tubercle Bacilli on Different Media", George B. Lawson, M. D., Roanoke, Virginia.

"Treatment of Fractures of the Jaws", Atwood M. Wash, D. D. S., Richmond, Virginia.

"Neurological Surgery", C. C. Coleman, M. D., and W. Gayle Crutchfield, M. D., Department of Neurological Surgery, Medical College of Virginia, Richmond, Virginia.

Commercial Exhibitors

Aloe, A. S. Company, St. Louis, Mo.
American Hospital Supply Company, Chicago, Ill.
Borden Company, New York, N. Y.
Ciba Pharmaceutical Products, Summit, N. J.
Coca-Cola, Atlanta, Ga.
Davis, R. B. Company, Hoboken, N. J.
Doak Company, Cleveland, Ohio.
Doho Chemical Corporation, New York, N. Y.
E. J. Rose Manufacturing Co., Clarksburg, W. Va.
E. & J. Company of Pennsylvania, Philadelphia, Pa.
Feick Brothers, Pittsburgh, Pa.
Fischer, H. G. Company, Chicago, Ill.
Fleet, C. B. Company, Lynchburg, Va.
General Electric X-ray, Cincinnati, Ohio.
Gilliland Laboratories, Marietta, Pa.
Jones Metabolism Equipment Co., Chicago, Ill.
Kelley-Koett Manufacturing Co., Covington, Ky.
Kloman Instrument Company, Charleston, W. Va.
Lederle Laboratories, New York, N. Y.
Liebel-Flarsheim Company, Cincinnati, Ohio.
Lilly, Eli and Company, Indianapolis, Ind.
M. & R. Dietetic Laboratories, Columbus, Ohio.
Mead Johnson, Evansville, Ind.
Mellins Food, Boston, Mass.
National Drug Company, Philadelphia, Pa.
Peoples Drug Stores, Washington, D. C.
Petrolagar Laboratories, Chicago, Ill.
Philip Morris and Company, New York, N. Y.
Phipps and Bird, Richmond, Va.
Powers and Anderson, Richmond, Va.
Saunders, W. B., Philadelphia, Pa.
Schering Corporation, Bloomfield, N. J.
Sharp and Dohme, Philadelphia, Pa.
Smith, Kline and French Laboratories, Philadelphia, Pa.
Squibb, E. R. and Sons, New York, N. Y.
Valentine's Meat Juice Company, Richmond, Va.
Van Pelt and Brown, Richmond, Va.
Westinghouse X-ray Company, Pittsburgh, Pa.
White Laboratories, Newark, N. J.
Wocher, Max and Son Company, Cincinnati, Ohio.
Wyeth, John and Brother, Philadelphia, Pa.

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Delegates to White Sulphur Meeting.

Delegates and alternates whose names have been reported from component societies to the meeting of the Medical Society of Virginia at White Sulphur Springs, July 29-31, are:

Delegate	*Society*	*Alternate*
	ACCOMAC	
Dr. W. M. Burwell		Dr. D. L. LeKites
	ALBEMARLE	
Dr. H. B. Mulholland		Dr. M. L. Rea
Dr. William H. Wood, Jr.		Dr. Percy Harris
	ALEXANDRIA	
Dr. H. A. Latane		Dr. James W. Love
	ALLEGHANY-BATH	
Dr. R. L. Claterbaugh		Dr. H. G. Hudnall
Dr. S. P. Hileman		Dr. I. T. Hornbarger
	ARLINGTON	
Dr. Richard N. Sutton		Dr. Alfred M. Palmer
	AUGUSTA	
Dr. D. E. Watkins		
Dr. Guy R. Fisher		
	BEDFORD	
Dr. William V. Rucker		Dr. H. R. Hartwell
	BOTETOURT	
Dr. M. S. Stinnett		Dr. S. F. Driver
	CULPEPER	
Dr. D. W. Kelly		Dr. O. K. Burnette
	DANVILLE-PITTSYLVANIA	
Dr. P. W. Miles		Dr. I. C. Harrison
Dr. H. H. Hammer		Dr. G. V. Thompson
	DICKENSON-BUCHANAN	
Dr. P. Q. Daniel		Dr. R. L. Phipps
Dr. J. C. Trivett		Dr. J. C. Moore
	FAIRFAX	
Dr. William Meyer		Dr. William David Chase
	FAUQUIER	
Dr. M. B. Hiden		Dr. Stewart McBryde
	FOURTH DISTRICT	
Dr. James L. Hamner		Dr. H. C. Rucker
		Dr. J. M. Habel
Dr. C. G. O'Brien		Dr. D. N. Twyman
Dr. L. A. Law		Dr. W. C. Harman
Dr. Wright Clarkson		Dr. Ruth Mason Grigg
Dr. J. B. Kiser		Dr. L. P. Jones
Dr. W. D. Kendig		Dr. K. S. Freeman
Dr. W. J. Ozlin		Dr. W. W. Wilkinson
Dr. J. Newton Dunn		Dr. J. M. Hurt
Dr. William S. Burton		
Dr. R. A. Moore		
Dr. Oliver L. Jones		Dr. F. M. Howell
Dr. B. H. Knight		Dr. F. E. Steere
Dr. T. S. Jennings		Dr. William D. Prince
	FREDERICKSBURG	
Dr. Thomas W. Dew		Dr. Thomas B. Payne
		Dr. C. A. Nunnally
	HALIFAX	
Dr. William R. Watkins		Dr. J. A. Owen
	HANOVER	
Dr. Charles L. Savage		Dr. A. Chambers Ray, Jr.
	ISLE OF WIGHT	
Dr. Rea Parker		Dr. F. I. Steele
	JAMES RIVER	
Dr. E. B. Nuckols		Dr. T. L. Driscoll
Dr. E. J. Haden		Dr. Garland Dyches
Dr. J. H. Yeatman		Dr. A. C. Whitley
	LEE	
Dr. G. B. Setzler		Dr. C. H. Henderson
	LOUDOUN	
Dr. W. O. Bailey		Dr. John A. Gibson
		Dr. D. T. Saffer
		Dr. W. H. Turner
	LOUISA	
Dr. H. W. Judd		Dr. H. G. Byrd
	LYNCHBURG ACADEMY	
Dr. E. G. Scott		Dr. T. N. Davis
Dr. Edwin A. Harper		Dr. W. Clyde Adkerson
	MID-TIDEWATER	
Dr. Clarence Campbell		
Dr. A. L. Van Name		Dr. J. M. Gouldin
Dr. Harry A. Tabb		Dr. James W. Smith
Dr. R. D. Bates		
Dr. Hawes Campbell		Dr. W. S. Cox
Dr. J. R. Gill		Dr. N. D. Nelms
Dr. W. P. Jones		Dr. H. F. Hoskins
Dr. J. R. Parker		
	NELSON	
Dr. S. G. Miller		Dr. H. G. Dickie
	NORFOLK	
Dr. George A. Duncan		Dr. N. G. Wilson
Dr. P. St. L. Moncure		Dr. Frank H. Redwood
Dr. C. C. Smith		Dr. Raymond Kimbrough
Dr. James W. Anderson		Dr. N. F. Rodman
Dr. C. J. Andrews		Dr. Clayton W. Eley
	NORTHAMPTON	
Dr. S. K. Ames		Dr. J. W. Jackson
	NORTHERN VIRGINIA	
Dr. C. O. Dearmont		Dr. Frank Tappan
Dr. John B. McKee		Dr. James A. Miller
Dr. M. J. W. White		Dr. George H. Long
Dr. John P. Snead		Dr. W. R. Bishop
Dr. H. W. Miller		Dr. F. C. Downey
Dr. D. M. Kipps		Dr. O. W. Carper
	ORANGE	
Dr. Lewis Holladay		Dr. G. R. Elliott

PATRICK-HENRY

Dr. R. H. Walker	Dr. F. B. Teague
Dr. B. A. Hopkins	Dr. W. N. Thompson

RICHMOND ACADEMY

Dr. Dewey Davis	Dr. L. T. Stoneburner, Jr.
Dr. D. G. Chapman	Dr. Joseph Bear
Dr. James H. Smith	Dr. J. Asa Shield
Dr. M. P. Rucker	Dr. F. P. Fletcher
Dr. W. B. Blanton	Dr. J. Lloyd Tabb
Dr. Carrington Williams	Dr. Basil B. Jones
Dr. I. A. Bigger	Dr. Kinloch Nelson
Dr. Porter P. Vinson	Dr. R. S. Preston
Dr. J. S. Horsley, Jr.	Dr. E. U. Wallerstein

ROANOKE ACADEMY

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Dr. Frank A. Farmer	Dr. A. C. Davis
Dr. C. H. Peterson	Dr. W. P. Jackson
Dr. L. D. Keyser	Dr. George Hurt

ROCKBRIDGE

Dr. F. L. Thurman	Dr. Brooke B. Mallory

SCOTT

Dr. A. McG. Wallace	Dr. N. W. Stallard

SOUTHAMPTON

Dr. R. L. Raiford	Dr. T. A. Morgan

SOUTHWESTERN

Dr. J. A. Wagner	Dr. A. B. Woolwine
Dr. J. G. Cox	Dr. W. A. Porter
Dr. W. C. Caudill	Dr. S. A. Tuck
Dr. V. O. Choate	Dr. B. F. Eckles
Dr. James P. King	Dr. A. M. Showalter
Dr. D. S. Divers	Dr. W. I. Owens
Dr. A. B. Graybeal	Dr. T. K. McKee
Dr. P. S. Smith	Dr. H. W. Bachman
Dr. E. M. Chitwood	Dr. C. A. Michael

WILLIAMSBURG

Dr. E. B. Kilby	Dr. C. E. Holderby

WISE

Dr. George W. Botts	Dr. T. J. Tudor
	Dr. T. S. Ussery
	Dr. C. L. Harshbarger

Woman's Auxiliary to the Medical Society of Virginia

Program for Joint Meeting of Virginia and West Virginia Auxiliaries.

The Woman's Auxiliary to the Medical Society of Virginia will hold its annual meeting jointly with the Woman's Auxiliary to the West Virginia State Medical Association at White Sulphur Springs, West Virginia, July 29, 30 and 31. A cordial invitation to attend the meetings and entertainments is extended to each woman attending the Convention, whether or not a member of the Auxiliary.

VIRGINIA OFFICERS

PRESIDENT—Mrs. H. A. Latane
PRESIDENT-ELECT—Mrs. Griffin W. Holland, Sr.
VICE-PRESIDENTS—Mrs. T. Brantley Henderson
Mrs. M. N. King
Mrs. W. B. McIlwaine
Mrs. E. Latane Flanagan
RECORDING SECRETARY—Mrs. Thomas Hunnicutt, Jr.
CORRESPONDING SECRETARY—Mrs. W. C. West
TREASURER—Mrs. Reuben F. Simms
PARLIAMENTARIAN—Mrs. Joseph Bear

WEST VIRGINIA OFFICERS

PRESIDENT—Mrs. V. E. Holcombe
PRESIDENT-ELECT—Mrs. H. V. Thomas
VICE-PRESIDENTS—Mrs. Scott A. Ford
Mrs. E. E. Vermillion
RECORDING SECRETARY—Mrs. G. A. Ratcliff
CORRESPONDING SECRETARY—Mrs. D. N. Barber
TREASURER—Mrs. Robert B. Price

Program

Monday, July 29
12:00 Noon

Registration begins.

2:00 P. M.

Executive Board Meeting. Presiding: Mrs. V. E. Holcombe.

4:00 P. M.

Tea by the Greenbrier Hotel, Honoring Virginia and West Virginia Auxiliaries.

Evening

Informal Reception and Dance.

Tuesday Morning, July 30
Virginia Program
9:00 A. M.

Executive Board Meeting. Presiding: Mrs. H. A. Latane.

10:00 A. M.

Formal Opening of Convention. Presiding: Mrs. H. A. Latane.

Invocation: Rev. Ben R. Roller.

Address of Welcome: Mrs. James S. Klumpp, West Virginia Auxiliary Chairman.

Response: Mrs. Henry Townsend, Marshall.

Committee Report (Arrangements): Mrs. P. M. Chichester, Richmond.

Committee Report (Registration): Mrs. A. I. Dodson, Richmond.

In Memoriam.
Minutes Seventeenth Convention.
Minutes Postconvention Meeting of Executive Committee.
County Auxiliary Roll Call: Mrs. Thomas Hunnicutt, Jr., Newport News.
President's Message: Mrs. H. A. Latane.
President's Announcements.
Standing Committees' Reports.
Adjournment—12:30.

Tuesday Morning, July 30
West Virginia Program
9:00 A. M.

Formal Opening of Convention. Presiding: Mrs. V. E. Holcombe.
Invocation: Rev. Ben R. Roller.
Address of Welcome: Dr. Guy Hinsdale, President, Greenbrier Valley Medical Society.
Response: Mrs. Ray Kessel, Charleston.
Introduction of Convention Chairman: Mrs. J. S. Klumpp, Huntington.
Report of Credentials Committee: Mrs. R. H. Walker, Charleston.
In Memoriam—Mrs. J. F. Helmick, Fairmont.
Prayer—Rev. Ben R. Roller.
Presenting Memorial Flowers honoring deceased members.
County Presidents.
Solo: "The Lord's Prayer"—Albert Hay Malotte. Mrs. Philip Johnson, Fairmont.
Minutes of Fifteenth Annual Meeting.
Roll Call.
Reports and Recommendations.
Standing Committees' Reports.
President's Report.
Adjournment—12:30.

Tuesday Afternoon, July 30
Combined Meeting
12:30 P. M.

"West Virginia Day" Luncheon. Presiding: Mrs. V. E. Holcombe, President, West Virginia Auxiliary, President, A.M.A. Auxiliary.
Introduction of Honor Guests.
Address: "Present Day Opportunities of Service for the Doctor's Wife." Mrs. Charles P. Corn, Pres., Southern Medical Auxiliary. Introduced by Mrs. H. V. Thomas.

3:00 P. M.

Golf Tournament—Chairman, Mrs. Edwin Humphrey, Huntington.

Wednesday Morning, July 31
8:00 A. M.

Past President's Breakfast (Joint).
Hostesses: Mrs. E. H. Starcher, Chairman, Mrs. F. S. Harkleroad, Mrs. Hawes Campbell.

Virginia Program
9:00 A. M.

General Session.
Reports Continued, County Presidents.
Delegates to the A.M.A., New York.
Delegates to the Woman's Auxiliary to the S.M.A.
Unfinished Business.
New Business.
Recommendations from the Board.
Presentation of Membership Trophy by Mrs. W. Clyde Adkerson, Lynchburg.
Reports:
  Committee on Resolutions: Mrs. Franklin D. Wilson, Mrs. M. N. King.
  Committee on Credentials and Registration: Mrs. A. I. Dodson.
  Nominating Committee: Mrs. Hawes Campbell, Chairman.
Election of Officers:
  Installation of Officers.
  Presentation of gavel.
  Inaugural Message of President, Mrs. Griffin W. Holland, Sr.

Wednesday Morning, July 31
West Virginia Program
9:00 A. M.

General Meeting: Presiding, Mrs. V. E. Holcombe.
Minutes.
Second Report of Committee on Credentials and Registration, Mrs. R. H. Walker.
Roll Call of Delegates.
Treasurer's Report.
Presentation of Budget.
Three minute talks, "Year's End", by County Presidents.
Report of Nominating Committee, Mrs. M. I. Mendeloff, Chairman.
Election of Officers.
Installation of Officers.
Courtesy Resolutions, Mrs. C. L. Parks.
Minutes.

Wednesday Afternoon, July 31
Combined Meeting
1:00 P. M.

"Virginia Day" Luncheon. Presiding: Mrs. H. A. Latane, President, Auxiliary to the Medical Society of Virginia.

Introduction of honor guests.

Address: "Coordinating the Auxiliary Program." Mrs. V. E. Holcombe, National President of Woman's Auxiliary. Introduced by Mrs. Latane.

Address: Dr. Irvin Abell, Louisville, Ky.

Greetings: Mrs. Griffin W. Holland, Sr.

Adjournment.

Virginia and West Virginia Post-Convention Board Meetings. Time and Place to be announced. Presided over by Mrs. Griffin W. Holland, Sr. and Mrs. H. V. Thomas, respectively.

Evening: Annual Convention Dinner and Dance.

President's Letter.

DEAR AUXILIARY MEMBERS:

When this reaches you my year as your State President will be drawing to a close. But I assure you as I step aside for my very able successor, my interest in the progress of the Woman's Auxiliary will be as sincere and deep as it has been this past year.

As I have visited the local Auxiliaries throughout the State, I have been impressed by the manner in which our motto "Be and not seem" has really seemed to permeate the groups. Friendliness, Faithfulness to pledges, Promptness, Sincerity and Helpfulness seemed to me to be the highlights of the meetings.

In every Auxiliary I felt the members were seriously considering the work and a real progress has been made.

I do feel that the fabric woven by us this year is an addition and that there have been no serious blunders to mar the beauty of the material completed by Auxiliary leaders and members of previous years.

I wish to thank every member of my Board and all Auxiliary workers for your very fine cooperation at all times, and I ask for our incoming President the same support you have given me.

These are serious times for us all. Let us stand shoulder to shoulder—every doctor's wife in Virginia with her husband—in the work these next months will surely bring..

Thank you again and I will see you everyone, I hope, in White Sulphur, July 29 to 31.

Cordially yours,

POLLY GRAHAM LATANE.
(MRS. HENRY AUGUSTINE LATANE.)

Truth About Medicine

In addition to the articles previously enumerated, the following have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association:

Smith, Kline & French Laboratories.

Benzedrine Sulfate Ampules, 10 mg. 1 cc.

The Upjohn Company.

Ampoules Sterile Solution Caffeine with Sodium Benzoate, 0.5 Gm. (7½ grains) 2 cc.

Hypodermic Tablets Caffeine with Sodium Benzoate, 0.065 Gm. (1 grain).

John Wyeth & Brother, Inc.

Thyroid Tablets.

New and Nonofficial Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Ampoules Bismuth Subsalicylate with Chlorobutanol in Oil, 1 cc.—Each cubic centimeter contains bismuth subsalicylate—U.S.P. (New and Nonofficial Remedies, 1939, p. 141) 0.13 Gm. (2 grains) and chlorobutanol 0.03 Gm. (0.46 grain), suspended in sweet almond oil. Upjohn Company, Kalamazoo, Mich.

Bismuth Subsalicylate with Chlorobutanol in Oil, 30 cc. Vials.—Each cubic centimeter contains bismuth subsalicylate—U.S.P. (New and Nonofficial Remedies, 1939, p. 141) 0.13 Gm. (2 grains) and chlorobutanol 0.03 Gm. (0.46 grain), suspended in sweet almond oil. Upjohn Company, Kalamazoo, Mich.

Tablets Thiamin Chloride—Squibb, 10 mg.—Each tablet contains thiamin chloride—Squibb (New and Nonofficial Remedies, 1939, p. 499) 10 mg. E. R. Squibb & Sons, New York. (*J. A. M. A.*, May 11, 1940, p. 1883.)

Propaganda for Reform

Chronic Industrial Benezine Poisoning.—An important and valuable addition to our understanding of the nature of chronic benzene poisoning in industrial workers is furnished by a series of five papers which recently appeared in the *Journal of Industrial Hygiene*. They come from the Labor Departments of Massachusetts and New York, and from the Massachusetts General Hospital and the Hospital of the Rockefeller Institute for Medical Research. These papers cast doubt on many of the ideas that have been held in the past with regard to pathology, diagnosis, clinical course and susceptibility. They leave the impression that here is a disease of decided variability, one which requires the most meticulous examination if a diagnosis is to be made in time to save life. More-

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over, the failure to make an early diagnosis sometimes means death to the victim. (*J. A. M. A.*, February 17, 1940, p. 587.)

Ovarian Preparations.—There still appears to be a profitable sale for some products prepared from animal gland which have little, if any, demonstrable activity. Except for the thyroid and perhaps posterior pituitary, products derived from a few grains of desiccated glandular material have never been proved to be effective in endocrine therapy. The Council on Pharmacy and Chemistry has repeatedly exposed such obsolete preparations as worthless. Now the Food and Drug Administration has sent the following notice to manufacturers of preparations of ovary:

There are on the market drug products in liquid form designated as "Ovarian Extract" or by some similar title. In some instances these products have been found not to contain the known therapeutically and physiologically active constituents of ovary, namely, those having estrogenic and progestational activities. The Food and Drug Administration is of the opinion that such inert or essentially inert preparations when sold as "Ovarian Extract," or under any other designation or under labeling which states or implies that such active principles are present, are both adulterated and misbranded as those terms are defined in the Federal Food, Drug and Cosmetic Act. (*J. A. M. A.*, February 3, 1940, p. 415.)

Book Announcements

New Books.

The following are recent acquisitions to the Library of the Medical College of Virginia and are available to our readers, the only cost being return postage:

Adair, F. L.—Obstetrics and gynecology.
Alcoholics anonymous.
Bodansky, M. & O.—Biochemistry of disease.
Cobb, W. M.—The first negro medical society: A history of the Medico-Chirurgical Society of the D. C., 1884-1939.
Sherrington, C.—Selected writings.
Dible & Davie—Pathology.
Edens, E.—Digitalisfibel für den Arzt.
Gasser, H. S.—Symposium on the synapse.
Gellhorn & Lambert—The vasomotor system in anoxia and asphyxia.
Haag & Waddell—Alcohol in moderation and excess. 3rd ed.
Haden, R. L.—Principles of hematology.
Hull, G. F.—An elementary survey of modern physics.
Kunow & Liekschen—Die Heilkunde.
Lehmann & Flury—Toxikologie und hygiene der technischen Lösungsmittel.
Lewis, T.—Clinical electrocardiography.
Lewis, T.—The mechanism and graphic registration of the heart beat.
Lickint, F.—Tabakgenuss und Gesundheit.
Lund, F. H.—Physiological and psychological discussion of the emotions.
MacKee, G. M.—X-rays and radium in the treatment of diseases of the skin.
Maher & Wosika—Electrocardiography.
Nossen, H. L.—Twelve against alcohol.
Oliver, J.—Architecture of the kidney in chronic Bright's disease.
Rashevsky, N.—Advances and applications of mathematical biology.
Rashevsky, N.—Mathematical biophysics.
Scherf & Boyd—Cardiovascular diseases, their diagnosis and treatment.
Shrader, J. H.—Food control: its public health aspects.
Steinach, E.—Sex and life.
Sulzberger, M.—Dermatologic allergy.
Tandler & Sichler—Anatomie für die Zahnarzte.
Walters, W.—Diseases of the gall-bladder and bile duct.
Wright, H. N.—Manual of prescription writing.
Yater, W. M.—Fundamentals of internal medicine.

Ten Years in the Congo. By W. E. DAVIS, M. D. Reynal & Hitchcock. New York. 1940. 301 pages. Cloth.

This is a chatty string of anecdotes of ten years' service as a medical missionary in darkest Africa. Physicians will be especially interested in his account of the diseases of the native population and of the low mortality rate in spite of the most primitive and crude operating conditions. The author succeeds in making one understand the strange spell that Africa exerts in spite of the filthy and cacodorous environment. This book is an interesting evening's entertainment.

R.J.M.

The Patient's Dilemma. The Question for Medical Security in American. By HUGH CABOT, M. D. 1940. Reynal & Hitchcock. New York. Octavo of x-284 pages. Cloth. Price, $2.50.

This book instead of solving "The Patient's Dilemma" rather develops a dilemma for patient and doctor. The author in great detail exposes the deficiencies of American medicine and discounts the work of the general practitioner to such an extent that he implies he has no place in modern practice.

One gets the impression from this book that all medical practice should be based on the mechanical and chemical developments of recent years and little reliance or respect paid to conclusions reached by observation, common sense, and experience. In other words the doctor with his bag containing his stethoscope, sphygmomanometer, blood counting pipettes, hypodermic, kit of instruments, and obstetrical outfit is a pretty helpless fellow. As a substitute the author seems to feel that Clinic facilities should be available

to all people for all ailments. That of course is too expensive even for America and undesirable even if we could afford it.

CARRINGTON WILLIAMS, M.D.

Diseases of the Gallbladder and Bile Ducts. By WALTMAN WALTERS, B. S., M. D., M. S. in Surgery, Sc. D., F. A. C. S., Head of Section in Division of Surgery, The Mayo Clinic; Professor of Surgery, The Mayo Foundation (University of Minnesota). And ALBERT M. SNELL, B. S., M. D., M. S. in Medicine, F. A. C. P., Head of Section in Division of Medicine, The Mayo Clinic; Professor of Medicine, The Mayo Foundation. W. B. Saunders Company. Philadelphia. 1940. Octavo of xvii-645 pages. With 342 Illustrations on 195 Figures. Cloth.

This excellent monograph on diseases of the gallbladder will be exceedingly helpful to thoughtful students from the medical school stage to the master surgeon. The authors have very happily combined an excellent review of reliable reports from many workers with the tremendous experience of the Mayo Clinic to make an almost definitive exposition of this subject.

The book contains too much excellent material to review it in detail, but the chapters on diagnosis should be singled out. Here one finds all of the refined modern diagnostic aids and along with them a very practical appraisal of their value. In addition clinical judgment is given top ranking in importance. The exposition of differential diagnosis is especially good.

Under treatment medical measures are given scant consideration for reasons definitely set forth. The surgical treatment of cholecystic and allied diseases is given in great detail in a very practical manner and adequately illustrated by excellent drawings and photographs.

All together it is a book that can be recommended without reservations to everyone interested in this subject.

CARRINGTON WILLIAMS, M.D.

An Introduction to Medical Mycology. By GEORGE M. LEWIS, M. D., Member of the American Dermatological Association, Inc.; Associate and Assistant Attending Dermatologist, New York Post-Graduate Medical School and Hospital, Columbia University; Instructor in Medicine (Dermatology), Cornell University; etc. And MARY E. HOPPER, M. S., Assistant in Mycology, Skin and Cancer Unit, New York Post-Graduate Medical School and Hospital, Columbia University. The Year Book Publishers, Inc., Chicago, Illinois. 1939. Octavo of xviii-315 pages. Cloth. Price, $5.50.

This is one of the few monographs in English devoted to mycology. It is divided into two parts. Part one deals with the clinical, theoretic, and experimental aspects of diseases caused by fungi. The chapter on immunity and cutaneous sensitization contains a practical discussion of the trichophytin test. The clinical aspects of the superficial and deep mycoses are fully considered. Therapy receives adequate attention. The authors emphasize the importance of identifying the causative organism of tinea capitis. It has been shown that if microsporum lanosum (animal ringworm) is the offending organism local therapy will result in a cure, whereas if microsporum audouini (human ringworm) is the offender epilation (X-ray) is necessary to produce a cure.

Part two is devoted to laboratory procedures. Practical suggestions for obtaining specimens are presented. "Dubious Fungous Forms and Artefacts" is a valuable chapter for the beginner. The discussion of filtered ultraviolet radiation (Wood's Light) as an adjunct in diagnosing fungus diseases contains valuable practical information. The characteristics of the common, and some of the rarer pathogenic fungi, are discussed. Space is also devoted to questionable pathogenic fungi and common contaminants.

The book is superbly illustrated, and the publishers are to be congratulated on the fine quality of the volume. This monograph should prove to be of value for students and physicians who are interested in medical mycology.

Synopsis of Obstetrics. By JENNINGS C. LITZENBERG, M. D., F. A. C. S., Professor of Obstetrics and Gynecology, University of Minnesota Medical School, Minneapolis. St. Louis. The C. V. Mosby Company. 1940. 12mo of 394 pages. Illustrated. Cloth. Price, $4.50.

The synopsis is indeed a *multum in parvo*. Within its 376 pages are collected not only an array of facts but 157 illustrations, including five in color.

One wishes that the author had added a brief bibliography at the end of each chapter.

No extra words are used; however, occasionally, we find such a bull's eye as "The ovum digests its way into the endometrium much like a hot shot dropped upon a cake of ice."

The descriptions and the illustrations are clear and definitely to the point. The heart in pregnancy and missed abortion are good illustrations of clear and pointed description.

Feeling that the students of the Medical College of Virginia should become familiar with this excellent synopsis I have recommended it as a reference book.

GREER BAUGHMAN, M.D.

XUM

Virginia Medical Monthly

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Owned by MEDICAL SOCIETY OF VIRGINIA since November, 1919
WYNDHAM B. BLANTON, M. D., *Editor*
AGNES V. EDWARDS, Richmond, *Business Manager*

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This journal is not responsible for the opinions and statements of its contributors.

All advertisements are received subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association.

Subscription Price: $2.00 per annum in advance. Single Copies 25c.

VOL. 67. JULY, 1940. No. 7.

Editorial

Chronic Pain of the Shoulder and Arm From Compression of the Brachial Plexus (Scalenus Anticus Syndrome).

The demonstration of compression of the cords of the brachial plexus as a cause of pain about the shoulder girdle, radiating into the arm and hand, has greatly simplified the study of many cases which formerly presented most baffling diagnostic problems. It has long been a matter of common knowledge that pain sometimes associated with vascular disturbance of the upper extremity may be due to a cervical rib and the diagnosis in such cases is simple if X-ray films are made. The knowledge gained from the study of patients presenting symptoms due to cervical rib led to the discovery of another factor that might cause similar symptoms in the absence of a cervical rib. The faulty relationship of the lower cords of the brachial plexus to a normal first rib in certain individuals may result in compression of the cords of the plexus in the angle formed by the first rib and the tendon of the scalenus anticus muscle. The effect of this compression is to produce pain referred to the nerves of the brachial plexus and this pain involves the shoulder, sometimes the precordium and often radiates into the arm and hand.

The symptoms of compression of the brachial plexus by the tendon of the scalenus anticus muscle, with or without associated cervical rib, rarely develop before adult life is reached. A rational explanation of the freedom of children from symptoms of cervical rib or scalenus anticus compression may arise from the fact that in children the descent of the shoulder has not taken place. The high position of the shoulder in a child permits the lower cords of the plexus to cross the first rib with less angulation than may occur after the shoulder has descended to the permanent adult level.

The compression of the plexus between a normal first rib and the scalene tendon varies according to posture and with the position of the upper extremity. This fact accounts in part for the intermittent symptoms of a constant anatomical condition.

Within the past few years there has been much discussion of patients with symptoms due to brachial plexus compression but erroneously attributed to brachial neuritis, cervical arthritis and other conditions which inadequately account for the patients' complaints. Compression of the brachial plexus by the scalenus anticus tendon against the first rib causes a traumatic neuritis of the plexus but the condition is in no way due to infection.

Patients with symptoms of scalenus anticus syndrome complain of pain about the shoulder which usually radiates into the arm and may be particularly troublesome just above the elbow. The pain in some cases may radiate from the shoulder upward into the cervical region or down over the precordium, the latter giving apprehension as to the presence of

angina pectoris. There may be tingling and numbness of any of the fingers but the ring and little fingers are more frequently involved. Atrophy of the muscles of the hand is sometimes seen. In many cases the pain is more severe at night and the patient finds it necessary to sleep with the arm on a pillow or elevated above the head. Carrying a weight in the hand of the affected side often increases the discomfort. It is not uncommon for patients to support the elbow on the affected side with the opposite hand.

Should the compression affect the subclavian artery which accompanies the cords of the plexus through the angle of the scalene muscle and the first rib, circulatory changes in the hand may develop. Such changes are more frequent when a cervical rib is present but scalenus anticus compression alone can impair the circulation to the hand. The condition may become disabling and often the patient resorts to drugs for relief of the pain. The condition may be present bilaterally but symptoms rarely occur simultaneously on the two sides. Compression of the brachial plexus by the scalenus anticus muscle is a frequent condition and the syndrome is being recognized more readily.

While the syndrome may be suspected even in the absence of a cervical rib, a positive diagnosis sometimes is difficult. The most important objective finding is pain on pressure over the scalenus anticus tendon just above the clavicle. Pressure over this point may cause pain to radiate throughout the distribution of the nerves primarily involved by the compression of the tendon, that is, produce the same type of pain for which the patient is seeking relief.

Treatment for relief of the condition, obviously, is surgical. The tendon of the scalene muscle is divided under local anesthesia. Care must be taken to avoid injury to the brachial plexus, phrenic nerve and subclavian artery. With accurate diagnosis and precise operation there are few neurosurgical procedures which give more gratifying results with so little penalty to the patient.

CLAUDE C. COLEMAN.

The White Sulphur Meeting.

The joint meeting this month of the medical societies of the two Virginias at the White Sulphur Springs promises to be a success. A battery of distinguished speakers is being brought to it from most of the medical centers of the Eastern Seaboard. After the presentation of their formal papers these distinguished guests will remain to conduct more intimate discussions which will center about the several round tables that have been planned. The task that has been assigned the several discussants of stated papers is as important as anything else on the program. These men have been selected with great care from the membership of the two societies because of their ability to contribute to the questions being considered.

The intermingling of the members of the two societies promises to be pleasant, and the interchange of ideas between them should be stimulating. The few days of close association will cement friendships between the doctors of Virginia and West Virginia. The White Sulphur Springs is just the place to enjoy all these opportunities to the full.

The Compleat Pediatrician is Complete.

The Compleat Pediatrician has an intriguing literary reminiscence in its title and in its adaptation of the title page of the 1653 edition of Isaak Walton's *The Compleat Angler* is further suggestive of its famous namesake. It purports to be a compendium of practical, diagnostic, therapeutic and preventive pediatrics, with an "emphasis on symptoms and signs as clues, rather than on description." It achieves its purpose. It is a light, handy and inviting book, the sort of book the busy doctor, pediatrician or not, likes to have on his desk. The facts are there. The arrangement is simple and clear. There is no waste of words. A few lines tell all one knows about freckles and all one needs to know. The neuropsychiatric child is dealt with adequately on four pages. The diagnosis of leukemia is disposed of in a single paragraph, but in the few lines given this subject no less than twenty-odd other diseases are suggested for differential consideration. Adolescence is covered in less than a page. (One is tempted to wish for the sake of parents and children alike that in life such a painful period could be so summarily dispatched.) In fact, the whole subject of pediatrics is neatly and successfully compressed into 256 pages. Professor W. C. Davison of Duke University is to be congratulated on having produced a worthwhile book, now in its third edition.

XUM

Proceedings of Societies

The Fourth District Medical Society

Held its annual meeting on May 21 in Blackstone, with the president, Dr. Munford Yates, Petersburg, presiding. An interesting scientific program was presented. At the business session, the following officers were elected: President, Dr. W. M. Phipps, Hopewell; vice-presidents, Dr. J. B. Kiser, Emporia, and Dr. B. H. Knight, Surry; secretary-treasurer, Dr. C. E. Martin, (re-elected), Emporia; and chairman of the Steering Committee, Dr. Wright Clarkson (re-elected), Petersburg.

The following resolutions were adopted:

"The Fourth District Medical Society wishes to go on record as being in favor of placing all medical libraries in the State at the disposal of the colored physicians of Virginia and we further wish to go on record as opposed to charging them any fee for this service that is not regularly charged to white physicians."

Wise County Medical Society.

At the annual meeting of this Society, Dr. Joseph D. Culbertson of Coeburn was elected president and Dr. C. L. Harshbarger of Norton was re-elected secretary-treasurer.

Norfolk County Medical Society.

At a meeting of this Society on June 3, the following officers were elected: President, Dr. James W. Anderson; president-elect, Dr. M. S. Fitchett; vice-president, Dr. Clayton W. Eley; and secretary-treasurer, Dr. Lockburn B. Scott, who was re-elected for his twenty-second year.

Lynchburg Academy of Medicine.

The regular meeting of the Academy was held June 3, at the Lynchburg General Hospital, with the President, Dr. E. G. Scott, presiding.

Dr. D. P. Scott and Dr. Foy Roberson, Chief of Staff, Watts Hospital, Durham, N. C., presented a very educational "Symposium on Gall Bladder Disease." Dr. Scott discussed the medical aspect and Dr. Roberson the surgical.

C. E. KEEFER, *Secretary.*

Clinch Valley Medical Society.

Dr. J. H. Hagy of Imboden was elected president of the Clinch Valley Medical Society at its annual meeting. Dr. C. B. Bowyer of Stonega was re-elected secretary.

News Notes

Commencements of Virginia Medical Schools.

MEDICAL COLLEGE OF VIRGINIA

The commencement exercises of the 102nd session of the Medical College of Virginia were held from June 1 to 4, opening with the Student Body Dance. The commencement sermon was delivered by the Reverend Theodore F. Adams, D. D., Pastor of the First Baptist Church. Alumni Day was on the 3rd and this ended with the usual banquet. Dr. W. H. Street of Richmond was re-elected president of the Association and Dr. Blanton P. Seward of Roanoke was elected first vice-president. Dr. T. Dewey Davis continues as treasurer. On Tuesday, a buffet luncheon was held for the Board of Visitors, Alumni, Faculty, and Senior Classes. The final exercises were held at the Mosque at which time the commencement address was delivered by Dr. Reginald Fitz, Lecturer on the History of Medicine at the Harvard Medical School. Diplomas were awarded to 132 graduates: sixty-six in medicine; twenty-three in dentistry; thirteen in pharmacy; and thirty in nursing. The Honorary Degree of Doctor of Science was awarded Dr. Stuart Leslie Craig, Surgeon and Director of the New York Eye and Ear Infirmary. The functions were closed with the annual reception and dance.

The following are graduates in medicine, with hospital appointments:

HOSPITAL DIVISION, MEDICAL COLLEGE OF VIRGINIA, RICHMOND—Drs. C. Sherrill Armantrout, Harrisonburg; Jose Bou-Lopez, Corozal, P. R.; Amelia Esther Gardner, Barren Springs; Milton Josiah Hoover, Jr., Richmond; Joseph Corbin

Parker, Richmond; Elmer Shackelford Robertson, Richmond; and George Everett Snider, Pulaski.

JOHNSTON-WILLIS HOSPITAL, RICHMOND—Drs. Albert John Ochsner, II, Spring Grove; Robert James Scott, Onancock; and Walter Elliott Ward, Robersonville, N. C.

STUART CIRCLE HOSPITAL, RICHMOND—Dr. Herman Jacob Flax, Richmond.

NORFOLK GENERAL HOSPITAL, NORFOLK—Drs. Albert Edward Corpening, Granite Falls, N. C.; Leonard Meredith Galbraith, Richmond; Forrest Elliott Oglesby, Richmond; and John Tabb Walke, Richmond.

CATAWBA SANATORIUM, CATAWBA — Dr. John Franklin Gibson, Jr., Carbondale, Pa.

UNIVERSITY OF VIRGINIA HOSPITAL, CHARLOTTESVILLE—Dr. Alfred Eldridge Powell, Roanoke.

LEWIS-GALE HOSPITAL, ROANOKE—Dr. Wilkin Richard Stevens, Coral Gables, Fla.

LYNCHBURG GENERAL HOSPITAL, LYNCHBURG—Dr. Robert Barnes Ware, Amherst.

CHARLESTON GENERAL HOSPITAL, CHARLESTON, W. VA.—Drs. J. Paul Aliff, Whitesville, W. Va.; and Morris Hill O'Dell, South Charleston, W. Va.

C. & O. HOSPITAL, HUNTINGTON, W. VA.—Drs. Galen Glick Craun, Bridgewater; and Carlisle Bee Hughes, Jr., Concho, W. Va.

OHIO VALLEY GENERAL HOSPITAL, WHEELING, W. VA.—Drs. Richard Kermit Hanifan, Clarksburg, W. Va.; and Edward Leon King, Charleston, W. Va.

SAINT MARY'S HOSPITAL, HUNTINGTON, W. VA.—Dr. Robert Storrar Gatherum, Jr., Athens, W. Va.

WHEELING HOSPITAL, WHEELING, W. VA.—Dr. James Earl Spargo, Jr., Wheeling, W. Va.

NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL, NEW YORK, N. Y.—Drs. Oscar Aguilo, Mayaguez, P. R.; and Richard Kenneth Clements, Matoaka, W. Va.

CONEY ISLAND HOSPITAL, BROOKLYN, N. Y.—Dr. Dorothy Fisher, Staten Island, N. Y.

NEW YORK INFIRMARY FOR WOMEN AND CHILDREN, NEW YORK, N. Y.—Dr. Josefina Guarch, Manati, P. R.

LINCOLN HOSPITAL, NEW YORK, N. Y.—Dr. David Krapin, Richmond.

CUMBERLAND HOSPITAL, NEW YORK, N. Y.—Dr. Benjamin Rosenberg, Brooklyn, N. Y.

STRONG MEMORIAL HOSPITAL, ROCHESTER, N. Y.—Dr. Charles Morton Scott, Bluefield, W. Va.

HARLEM HOSPITAL, NEW YORK, N. Y.—Dr. Natalie Yarow, New York, N. Y.

POTTSVILLE HOSPITAL, POTTSVILLE, PA.—Dr. Olivia Abernethy, Elkin, N. C.

PROTESTANT EPISCOPAL HOSPITAL, PHILADELPHIA, PA.—Dr. Arthur Bascom Croom, Maxton, N. C.

WILKES-BARRE GENERAL HOSPITAL, WILKES-BARRE, PA.—Dr. A. Bernard Pasternack, Richmond.

TOURO INFIRMARY, NEW ORLEANS, LA.—Dr. Leonard Apter, Alexandria.

CHARITY HOSPITAL, NEW ORLEANS, LA.—Dr. Carl Bemis Hall, Charleston, W. Va.

UNIVERSITY OF OKLAHOMA HOSPITAL, OKLAHOMA CITY, OKLA.—Dr. John Dewitt Ashley, Jr., Swifton, Ark.

RHODE ISLAND HOSPITAL, PROVIDENCE, R. I.—Dr. Richard Phillips Bellaire, Wellesley, Mass.

WISCONSIN GENERAL HOSPITAL, MADISON, WIS.—Drs. John Reid Edwards, Asheville, N. C.; and Francis Charles Johnson, Greenfield, Mass.

GALLINGER MUNICIPAL HOSPITAL, WASHINGTON, D. C.—Dr. Nathaniel Clayton Ewing, Jonesville.

STATION HOSPITAL, FORT SAM HOUSTON, TEXAS—Dr. Felix Claudius Feamster, Lexington.

SCOTT AND WHITE CLINIC, TEMPLE, TEXAS—Dr. John Franklin Croom Hunter, Magnolia, N. C.

NORWALK GENERAL HOSPITAL, NORWALK, CONN.—Drs. George Stone Ferrell, Lynchburg; Robert Allen Nutter, Enterprise, W. Va.; and Clarence Fenimore Ward, Portsmouth.

MACON HOSPITAL, MACON, GA.—Drs. Vernon Mercer Bryant, Elm City, N. C.; and John Hope Moorman, Jr., Conicville.

CRAWFORD W. LONG MEMORIAL HOSPITAL, ATLANTA, GA.—Dr. Margaret Helen Zolensky, Thorpe, W. Va.

JOHNS HOPKINS HOSPITAL, BALTIMORE, MD.—Dr. William Cecil Grinnan, Richmond.

GOOD SAMARITAN HOSPITAL, LEXINGTON, KY.—Drs. Shelton Brinson Hunter, Jr., Magnolia, N. C.; and Jack Roy Tayman Rafter, Keyser, W. Va.

LOUISVILLE CITY HOSPITAL, LOUISVILLE, KY.—Dr. Jack Graham Webb, Richmond.

BARONESS ERLANGER HOSPITAL, CHATTANOOGA, TENN.—Dr. Hal Standish Johnson, Berwind, W. Va.

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WILLIAM SEYMOUR HOSPITAL, ELOISE, MICH.—Dr. Gus Theodore Kerhulas, Columbia, S. C.

UNIVERSITY HOSPITAL, ANN ARBOR, MICH.—Dr. Walter Gorring King, Binghamton, N. Y.

PEOPLES HOSPITAL, AKRON, O.—Dr. Evelyn Adeline Meadows, Hinton, W. Va.

OLMSTEAD MEMORIAL HOSPITAL, HOLLYWOOD, CALIF.—Dr. Carl Floyd Stevens, San Francisco, Calif.

CALIFORNIA HOSPITAL, LOS ANGELES, CALIF.—Dr. Evelyn Phillips Sturges, San Francisco, Calif.

COLORADO GENERAL HOSPITAL, DENVER, COLO.—Dr. Walter Edward Vest, Jr., Huntington, W. Va.

REX HOSPITAL, RALEIGH, N. C.—Dr. Clark Harold Woodburn, Brown's Summit, N. C.

Dr. Glenn Fair Palmer, Pine Grove, W. Va., was also awarded his medical degree.

UNIVERSITY OF VIRGINIA

The final celebration for the largest graduating class in the history of the University of Virginia began on June 7th and continued through the 10th. Alumni reunions began on the 7th at the Big Tent and the annual meeting was held on the 8th. The baccalaureate sermon was delivered by the Reverend H. M. Haushalter of Baltimore. The graduating class was addressed by President Franklin D. Roosevelt at the final exercises on the 10th.

A portrait of the late Dr. John Henry Neff, professor of urology, was presented to the University by the graduates in medicine.

The sixty-two graduates in medicine, with hospital appointments, are as follows:

UNIVERSITY OF VIRGINIA HOSPITAL, UNIVERSITY—Drs. Eugene Stapleton Carter, Jr., Fayetteville, W. Va.; James Workman Culbertson, Woodruff, S. C.; William Davis Richardson Driscoll, Covington; James Richmond Low, Welcome; John Rogers Mapp, Machipongo; and Edward Valentine Siegel, Jr., Newport News.

ST. ELIZABETH'S HOSPITAL, RICHMOND — Drs. Thomas McMurray Armistead, Lynchburg; and Michael Chester Tavenner, Norfolk.

MEMORIAL HOSPITAL, RICHMOND—Dr. Carney Cooper Pearce, Jr., Suffolk.

BLUE RIDGE SANATORIUM, CHARLOTTESVILLE—Dr. George Ridgway Minor, Cannel City, Ky.

NORFOLK GENERAL HOSPITAL, NORFOLK — Dr. Henry Lorenzo Gardner, Jr., Suffolk.

VIRGINIA MASON CLINIC, SEATTLE, WASH.—Drs. John Alexander Cocke, Hollins College; Francis Marvin Bunce Day, Hartford, Conn; and Angus Crawford Randolph, Lynchburg.

LAKESIDE HOSPITAL, CLEVELAND, OHIO—Dr. Edgar Clayton Brantly, Danville.

CINCINNATI GENERAL HOSPITAL, CINCINNATI, OHIO—Dr. Charles Emmett Davis, Jr., Groseclose.

CLEVELAND CITY HOSPITAL, CLEVELAND, OHIO—Dr. Harold Howard Gist, Anniston, Ala.

UNION MEMORIAL HOSPITAL, BALTIMORE, MD.—Drs. Graham Clark, Englewood, N. J.; Mason Smith, Richmond; and Theodore Booth Strange, Gordonsville.

WEST BALTIMORE GENERAL HOSPITAL, BALTIMORE, MD.—Dr. Harry Lee Greenberg, Onancock.

CHURCH HOME AND INFIRMARY, BALTIMORE, MD.—Dr. Hugh White Sheffey Powers, Jr., Baltimore, Md.

SINAI HOSPITAL, BALTIMORE, MD.—Dr. Bernard Harold Raymond, Norfolk.

U. S. MARINE HOSPITAL, BALTIMORE, MD.—Dr. David William Scott, Jr., Fredericksburg.

WALTER REED HOSPITAL, WASHINGTON, D. C.—Dr. Winston Clarkson Hainsworth, Norfolk.

EMERGENCY HOSPITAL, WASHINGTON, D. C.—Drs. Richard Franklin Hawkins, Lynchburg; and Louis Paul Ripley, Roanoke.

BARONESS ERLANGER HOSPITAL, CHATTANOOGA, TENN.—Dr. James Garnett Bruce, Jr., Culpeper.

NEW YORK HOSPITAL, NEW YORK, N. Y.—Drs. Henry Wise Mayo, Jr., Brooklyn, N. Y.; Charles LeGrand Stuckey, Bamberg, S. C.

PRESBYTERIAN HOSPITAL, NEW YORK, N. Y.—Dr. Henry Dunlop Ecker, Washington, D. C.

BELLEVUE HOSPITAL, NEW YORK, N. Y.—Dr. James Tate Mason, Jr., Seattle, Wash.

NEW YORK POST-GRADUATE HOSPITAL, N. Y.—Dr. Thomas Whitehead Murrell, Richmond.

LONG ISLAND COLLEGE HOSPITAL, LONG ISLAND, N. Y.—Dr. Julian Harold Frieden, Norfolk.

GRASSLANDS HOSPITAL, VALHALLA, N. Y.—Dr. William Pinkerton Mulford, Burlington, N. J.

STRONG MEMORIAL HOSPITAL, ROCHESTER, N. Y.—Dr. John Christian Weaver, Smithfield.

KINGS COUNTY HOSPITAL, BROOKLYN, N. Y.—Dr. Norman Lee Wilson, Brookline, Mass.

ST. LUKE'S HOSPITAL, BETHLEHEM, PA.—Drs. Ashby Coleman, Lynchburg; and Gordon Livingston Todd, Jr., Princeton, W. Va.

ROBERT PACKER HOSPITAL, SAYRE, PA.—Drs. Al-

fred Randolph Garnett, Danville; and Frederick St. Paul Henstridge, Elmira, N. Y.

LANKENAU HOSPITAL, PHILDELPHIA, PA.—Dr. Douglas Waldemar Lund, Lexington.

DELAWARE HOSPITAL, WILMINGTON, DEL.—Dr. Italo Charamella, Wilmington, Del.

CHARITY HOSPITAL OF LOUISIANA, NEW ORLEANS, LA.—Drs. Virgil Clayton Daniels, Boydton; Joseph Wilson Eversole, Coeburn; John Albert Kirchner, Baltimore, Md; and Andrews Antonio Pringos, Petersburg.

DUKE UNIVERSITY HOSPITAL, DURHAM, N. C.—Dr. William Swindell Credle, Oxford, N. C.

CHARLESTON GENERAL HOSPITAL, CHARLESTON, W. VA.—Dr. William Lee Davis, Lynnhaven.

ROPER HOSPITAL, CHARLESTON, S. C.—Dr. William Minor Deyerle, Bluefield, W. Va.

ST. JOSEPH'S HOSPITAL, PATERSON, N. J.—Dr. Herbert Rupert Farber, Paterson, N. J.

BAYONNE HOSPITAL AND DISPENSARY, BAYONNE, N. J.—Dr. Edward Emanuel Shapiro, Bayonne, N. J.

THE CRAWFORD W. LONG MEMORIAL HOSPITAL, ATLANTA, GA.—Drs. Henry Haskins Ferrell, Jr., Goochland; and Amos Leslie Stephens, Jr., Lynchburg.

EMORY UNIVERSITY HOSPITAL, ATLANTA, GA.—Drs. Richard Wingfield Garnett, Jr., Danville; and Don Preston Peters, Jr., Lynchburg.

MASSACHUSETTS GENERAL HOSPITAL, BOSTON, MASS.—Dr. William McKendree Jefferies, Richmond.

MEDICAL CORPS, U. S. NAVY—Drs. James Sidney Kitterman, Norfolk; and John Montague Murphy, Washington, D. C.

NEW HAVEN HOSPITAL, NEW HAVEN, CONN.—Dr. James Baker Twyman, Charlottesville.

GORGAS MEMORIAL HOSPITAL, ANCON, CANAL ZONE —Dr. William Guerin White, Charlottesville.

Dr. James Alexander Lamond Mathers, Norfolk, also received his medical degree.

Program for the Annual Meeting.

In this issue of the MONTHLY appears the program for the joint meeting of the Medical Society of Virginia and the West Virginia State Medical Association at the Greenbrier Hotel, White Sulphur Springs, W. Va., July 29, 30 and 31. In addition to headquarters hotel, there are several smaller hotels in the village of White Sulphur Springs—the Alvon, the Hart and the West Virginian—with rates from $2.00 up.

Readers will notice that the morning sessions are given over to papers by invited guests, with discussions by a member from each of the societies. These guests will conduct round table discussions in the afternoons.

Both societies will hold business sessions as usual. Time for the Council meeting will be at 12:30 Monday and the first meeting of the House of Delegates will be at 4:30 p. m., Monday, the 29th. Lists of delegates already appointed and reports to be presented for acceptance or discussion are published in this issue.

As "all work and no play make Jack a dull boy", diversions may be indulged in as the taste dictates.

Governors of the two States will be guests of the Societies at the reception and banquet on the last evening.

The ladies are to have a pleasant and interesting time in their auxiliary meetings, so bring your wives and daughters.

Don't forget the dates—July 29, 30 and 31.

Medical College of Virginia Alumni Dinner.

Alumni of the Medical College of Virginia, members of the Virginia and West Virginia State Medical Associations, are arranging for a dinner on Monday evening, July 29, at the Greenbrier Hotel, during the time of the joint meeting at White Sulphur Springs. There is no charge to those staying at the hotel but the price will be $3.00 to those staying elsewhere or there for the evening. It will facilitate arrangements if those who do not expect to register at the hotel by noon will advise Dr. J. A. Shield, 212 West Franklin Street, Richmond, if they plan to attend.

Golfers—Take Notice!

To the golfers of the Virginia and West Virginia State Medical societies, greetings! This is your Committee announcing the time, place and method proposed in conducting your tournament.

The program committee of our State Associations have assigned to us Sunday, July 28, 1940, as the date on which we are to hold our tournament. The play will begin at 8 A. M. and will be eighteen hole match. We shall play by the Peoria system which will save you the trouble of bringing your handicaps from your various clubs.

Six prizes will be given, one for the Virginia, one

for the West Virginia, and one for the Virginia and West Virginia, low net and low gross.

There will be a golfers banquet at 8 P. M. at the Casino on Sunday night, July 28, for the purpose of general good time and presenting the prizes won during the day.

Your Committee wishes to appeal to all golfers in the two state associations to be present on Sunday for the tournament.

R. H. DUNN, M.D.
J. M. EMMETT, M.D.
J. E. WOOD, M.D.
S. S. HALL, M.D., *Chairman.*

Tennis Players, Too, Have a Place.

Tennis players will play in spare time throughout the convention and some special contests with prizes will be arranged. Those interested may secure details from Dr. W. A. McGee, 1601 Monument Avenue, Richmond, or from Dr. W. A. Thornhill, Jr., Medical Arts Building, Charleston, W. Va.

American Medical Association.

At the annual meeting held in New York, June 11-14, there were 12,631 physicians in attendance. Of this number 174 were from Virginia.

Dr. Nathan B. Van Etten, New York, succeeded Dr. Rock Sleyster, Wauwatosa, Wis., to the presidency, and the following officers were elected: President-Elect, Dr. Frank Howard Lahey, Boston; vice-president, Dr. Parke G. Smith, Cincinnati; secretary, Dr. Olin West, Chicago; treasurer, Dr. Herman L. Kretschmer, Chicago; and speaker of the House of Delegates, Dr. H. H. Shoulders, Nashville. The last three were re-elected.

The following meeting places have been selected: 1941, Cleveland; 1942, Atlantic City; and 1943, San Francisco.

News From the University of Virginia Medical School.

On May 14, Dr. E. C. Drash addressed the Danville Academy of Medicine in Danville on The Collapse Therapy Program of the State Health Department.

Dr. E. P. Lehman spoke before the Peninsular Academy of Medicine in Newport News on May 20. His subject was Prevention of Intraperitoneal Adhesions with Heparin.

At the meeting of the Fauquier Medical Society in Warrenton on May 23, Dr. H. B. Mulholland presented a paper on Pneumonia.

On May 23, Dr. Samuel A. Vest, Jr. addressed the Northern Neck Medical Society in Warsaw on Function of the Testicles.

Dr. D. C. Elkin, Professor of Surgery at the Medical School of Emory University, visited our Medical School on May 29.

On May 30, Dr. Floyd Boys addressed the Valley Medical Society in Harrisonburg on the subject, Prevention of Peritoneal Adhesions with Heparin.

The John and Mary R. Markle Foundation has given a grant of $2,500 to the University of Virginia in support of a study of the state of calcium and bile pigments in blood serum with the aid of the ultracentrifuge in the Department of Biochemistry under the direction of Dr. Alfred Chanutin. Dr. Chanutin has received an additional grant of $1,800 from the Dazian Foundation for Medical Research in support of this same project.

Dr. W. W. Waddell, Jr. attended the meetings of the American Medical Association in New York City from June 10 to 14 and presented a paper on Vitamin K in the Prevention and Treatment of Prothrombin Deficiency and Associated Hemorrhage in the Newborn.

St. Elizabeth's Hospital.

The 28th annual report of St. Elizabeth's Hospital, Richmond, has recently been published. This report includes a record of all of the patients admitted and treated at the hospital during 1939.

The report is arranged along the same general plan that has been used for several years, giving a list of the publications of the Staff, the statistics of the School of Nursing, Out-Patient Department, and Laboratory. This is followed by a record of the diagnosis and operation on all patients admitted and the usual critical resume of the deaths.

The number of surgical, medical and urological cases for 1939 was the same as in 1938; however, there was an increase in the number of appendectomies, with 229 in 1939 as compared with 206 in 1938, and 165 in 1937.

There were thirty deaths during 1939, with a mortality rate of only 2.1 per cent, compared with a mortality rate of 2.8 per cent in 1938, and 3.04 per cent in 1937. This is one of the lowest yearly death rates ever recorded at this institution. Of these thirty deaths there were twenty-seven necropsies (90 per

cent). This is a higher percentage of necropsies than for the last two years, as necropsies were performed on only 85 per cent of the deaths for 1938 and only 67.3 per cent for 1937.

Dr. Clyde F. Ross,

Richmond, has been appointed venereal disease control officer of this city.

Dr. Francis N. Taylor

Has been elected a vice-president of the Petersburg Lions Club.

Dr. B. B. Bagby,

Richmond, for the past ten years director of the State Bureau of Maternal and Child Health, has resigned and retired from office on July 1. He practiced his profession privately for nineteen years and, in 1923, became health officer for Henrico County; the following year he took a similar position in Clark County, Ga.; and was health officer for Southampton County from 1929-30, when he entered state service.

Dr. Bagby plans to spend the summer at Edwardsville and will then make his home at West Point.

Dr. Pendleton S. Tompkins,

Graduate of Washington University, 1931, who has been located in Philadelphia for the past three or more years, specializing in gynecology and obstetrics, has recently moved his office from the Pennsylvania Hospital to the Medical Tower. Dr. Tompkins was recently elected first vice-president of the Philadelphia Obstetrical Society. He is a son of Dr. and Mrs. E. P. Tompkins of Lexington, Va.

Venereal Disease Information

Presents a monthly digest of the important papers on diagnosis, treatment, pathology, laboratory research, and public health from the entire world. In addition, it publishes important special papers and reports by leading scientists. It is designed to keep both the specialist and the general practitioner informed of developments in the field of syphilology and urology.

This journal is published monthly by the U. S. Public Health Service and ranks as the Government's "best seller," with the highest paid circulation of any Federal publication. It is available at fifty cents per year to all physicians. New subscribers may receive, on request, any or all of several supplements.

Orders should be directed to the Superintendent of Documents, Government Printing Office, Washington, D. C., accompanied by fee in check or money order, *not stamps*.

The Leslie Dana Gold Medal,

Awarded annually for outstanding achievements in the prevention of blindness and the conservation of vision, was presented this year to Mr. John M. Glenn, of New York City, Honorary Vice-President of the National Society for the Prevention of Blindness. Identified with the organized movement for the protection of eyesight in America since its beginning in 1908, Mr. Glenn served as a member of the Board of Directors of the National Society for the Prevention of Blindness for three decades and became Honorary Vice-President in 1938.

Doctors in Civic Affairs.

Dr. M. H. Harris was recently elected Mayor of West Point;

Dr. Charles R. Anderson was re-elected Mayor of Winchester for a third term; and

Dr. James W. Reed, Norfolk, has been re-elected a member of the City Council.

Dr. I. A. Bigger,

Richmond, was elected treasurer of the American Association of Thoracic Surgery at its meeting in Cleveland in June.

Dr. E. Trible Gatewood,

Richmond, was recently elected to membership in the American Laryngological Association, which limits its membership to one hundred laryngologists throughout the United States and Canada.

Dr. Charles F. James, Jr.,

Class of '38, Medical College of Virginia, has been appointed assistant surgical resident in the Coney Island Hospital, Brooklyn, N. Y., effective August 1. He has recently been at the New York Polyclinic Medical School and Hospital.

Dr. Paul Kimmelstiel,

Recently Associate Professor of Pathology at the Medical College of Virginia, Richmond, has moved to Charlotte, N. C., where he will be pathologist at the Charlotte Memorial Hospital, effective August 1.

The New York Academy of Medicine

Graduate Fortnight will be held from October 14 to 25. The subject this year is "Infections", and the purpose is to make a complete study and authoritative presentation of a subject of outstanding impor-

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tance in the practice of medicine and surgery. It will include morning panel discussions, afternoon clinics and clinical demonstrations at many of the hospitals of New York City, evening addresses and appropriate exhibits. The evening sessions will be addressed by recognized authorities in their special fields, drawn from leading medical centers of the United States.

All members of the medical profession are eligible for registration and a complete program and registration blank may be secured by addressing Dr. Mahlon Ashford, The New York Academy of Medicine, 2 East 103rd Street, New York City.

The American College of Physicians

Will hold its Twenty-Fifth Annual Session in Boston, with general headquarters at the Statler Hotel, April 21-25, 1941.

Dr. James D. Bruce of Ann Arbor, Mich., is President of the College and will have charge of the program of general scientific sessions. Dr. William B. Breed of Boston has been appointed General Chairman of the Session, and will be in charge of the program of clinics and demonstrations in the hospitals and medical schools and of the program of panel and round table discussions to be conducted at the headquarters.

Married.

Dr. Hazael Joseph Williams, Brownsburg, and Miss Marion Louise Pugh, Richmond, May 25. Dr. Williams is a graduate of the Medical College of Virginia in the class of 1938.

Dr. Hal Standish Johnson, Berwind, W. Va., and Miss Ellen Reynolds, Chesterfield County, June 5. Dr. Johnson graduated from the Medical College of Virginia this year and will serve his internship at the Baroness Erlanger Hospital, Chattanooga, Tenn.

Dr. Roland Harris Vaughan, Edenton, N. C., and Miss Ruth Elizabeth Miller, Wilkes Barre, Pa., June 1. Dr. Vaughan received his medical degree from the University of Virginia in 1935.

American Proctologic Society.

At the annual meeting of this Society, held in Richmond, June 9-11, the following officers were elected: President, Dr. Clement J. De Bere, Chicago; vice-president, Dr. J. J. Corbett, Detroit; secretary, Dr. William H. Daniel, Los Angeles; and treasurer, Dr. Fred Campbell, Kansas City, Mo.

More than 75 per cent of the members, or more than 300, attended this meeting, and it was stated that this was the most successful meeting the Society had ever had.

Dr. George A. Shetter,

Class of '37, Medical College of Virginia, visited his family in Richmond, on his way to Billings, Montana, where he will study this summer. In the Fall he will return to New York where he has received a three-year appointment at the New York Eye Infirmary.

The Jefferson Medical College of Philadelphia News.

The One Hundred and Fifteenth Commencement was held on June 7. The valedictory address on "The Art of Living", was delivered by William Lyon Phelps, Ph.D., LL.D., Public Orator of Yale University, New Haven, on whom was conferred the honorary degree of Doctor of Civil Law.

The Graduating Class numbered 125, bringing the total number of graduates to 16,694. The graduates originated in twenty different states, the Territory of Hawaii and Puerto Rico. Thirty-one members of the Graduating Class were commissioned as First Lieutenants in the Medical Section of the Officers' Reserve Corps. The commissions were presented by Dr. John F. Corby, Lt.Col., M.C., U.S.A.

The Annual Alumni Dinner was held on June 6, at the Bellevue-Stratford Hotel with 525 Alumni in attendance: Dr. Carl E. McKee, '06, President of the Alumni Association, presided. Alumni Day and Ex-Internes' Day Clinics were held on June 5 and 6, in the Clinical Amphitheatre of the Jefferson Hospital.

The Jefferson Medical College is commemorating the anniversary of the twenty-fifth year of Dr. J. Parsons Schaeffer as Professor of Anatomy.

The following promotions in the teaching corps have been made, during the past session: Dr. Clifford B. Lull, Associate Professor of Obstetrics; Dr. Norman M. Macneill, Associate Professor of Pediatrics; Dr. Lorenz P. Hansen, Associate Professor of Chemistry; Dr. Victor C. Haury, Associate Professor of Pharmacology; Dr. John Williams Holmes, Assistant Professor of Pediatrics; Dr. Franklin R. Miller, Assistant Professor of Medicine; Dr. George Allen Bennett, Assistant Professor of Anatomy; Dr. Reynold S. Griffith, Associate in Therapeutics; Dr. Guy M. Nelson, Associate in Medicine; Dr. Mario A. Castallo, Associate in Obstetrics; Dr. Louis B.

Laplace, Associate in Medicine; Dr. A. M. Rechtman, Associate in Orthopedic Surgery; Dr. Joseph Waldman, Associate in Ophthalmology; Dr. Howard Holt Bradshaw, Associate in Surgery and Dr. Robert Bruce Nye, Associate in Therapeutics.

Dr. Bernard J. Alpers, Professor of Neurology, has been elected President of the American Association of Neuropathologists. Dr. Alpers has also been re-elected Assistant Secretary of the American Neurological Society.

Personnel Changes in State Health Department.

Four new county health departments are being established, effective July 1, 1940. These are Charlotte, Chesterfield, Orange and Smyth Counties.

Dr. John R. Grunwell is a new appointee as Assistant Health Officer in Arlington to succeed Dr. R. Bruce Mallett. Dr. Mallett has been transferred to Orange County as Health Officer. Both changes effective July 1.

Dr. Allen W. Lane is a new appointee as Assistant Health Officer of the Brunswick-Greensville-Mecklenburg Health District to replace Dr. William P. Terry. Dr. Terry is being transferred to Charlotte County as Health Officer, both changes effective July 1. Dr. Lane has been engaged in practice at Blackstone.

Dr. Earle C. Gates has returned from Johns Hopkins University where he took a course in Public Health and has been appointed Health Officer of Chesterfield County, effective July 1.

Dr. Willard W. Griggs has been designated to take a course in public health at Johns Hopkins beginning in September, 1940. His successor has not yet been appointed.

Dr. John G. McNiel has been designated to take a course in public health at Johns Hopkins beginning in September, 1940. He will be succeeded by Dr. A. Glenn Evans at that time.

Dr. William Y. Garrett has been designated to take a course in public health at Johns Hopkins University beginning in September, 1940. His successor has not yet been appointed.

Dr. William M. Moir is being transferred from Washington County to Smyth County, effective July 1. He will be succeeded in Washington County by Dr. James M. Suter, who has recently completed a course of study at Johns Hopkins University.

Dr. Paul W. Bowden will be appointed Venereal Disease Control Officer in the Newport News area, effective July 1, on a temporary basis. He will enroll at Johns Hopkins University in September. Effective July 1, Dr. Bowden will be succeeded by Dr. John D. Hamner, who has recently returned from Johns Hopkins University.

Dr. Lewis Walker McIlhany has been appointed Assistant Health Officer in Control of Venereal Disease in the Norfolk-Princess Anne Health District, effective July 1, 1940.

Dr. James W. Tankard,

Who formerly practiced in the southwestern part of this State and later in Kentucky, has returned to Virginia and located in Hilton Village. He is connected with the surgical staff of Elizabeth Buxton Hospital, Newport News, and has morning hours in the Buxton Clinic and evening hours at his home.

Fauquier County Hospital Discontinued.

At a meeting on May 22, members of the Fauquier County Hospital Association voted unanimously to discontinue this hospital at once or as soon as the "patients therein may be discharged". This will terminate a controversy which has existed for several years between the lay members of the hospital board and the twenty-eight doctor members of the Fauquier County Medical Society. The hospital had been in operation since 1925.

News from Duke University School of Medicine.

On May 23, Dr. Mark V. Ziegler, Assistant Surgeon, U. S. Public Health Service, Washington, D. C., lectured to the students on "Opportunities in the Public Health Service".

In the autumn quarter, 1939, the Duke Medical Historical Society was organized by the students of the School of Medicine, with eighteen members. Meetings are held every two weeks and, at each meeting, one of the members, or a guest speaker, discusses some phase of medical history.

At the Commencement exercises, held June 3, there were fifty-eight candidates for the degree of Doctor of Medicine and five for the degree of Bachelor of Science in Medicine.

American Congress of Physical Therapy.

The 19th annual scientific and clinical session of this Congress will be held September 2-6, at the Hotel Statler, Cleveland, Ohio. The mornings will be devoted to the annual instruction course and the sci-

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entific sessions will be held in the afternoons and evenings. Every phase of physical therapy will be covered in the general program, with special emphasis on the use of physical measures in general practice. Symposia dealing with light, heat and electricity as important therapeutic adjuvants in general medical and surgical practice will appeal to every physician interested in modern therapy. The seminar and convention proper will be open to physicians and qualified technicians.

For information, address American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago.

For Sale—

Standard office Burdick air-cooled Quartz mercury treatment lamp. Slightly used. Reasonable. Address "Burdick Lamp", care this JOURNAL. (*Adv.*)

Physician Wanted

In incorporated town of more than 1,000. In midst of good farming and large dairy farm section. Good roads, etc. If interested, address No. 86, care this JOURNAL. (*Adv.*)

For Sale—

Two Brown-Buerger cystoscopes. In excellent condition. Reasonably priced. Address" Cystoscope", care this JOURNAL, 1200 East Clay Street, Richmond, Va. (*Adv.*)

Obituary Record

Dr. John Abner Hawkins,

Danville, died June 7, following a stroke, although he had been in bad health since 1936. After some ten years of practicing roentgenology, he developed burns from radium, apparently from a leak in his equipment, and in recent years had had to have both legs amputated. Dr. Hawkins was forty-five years of age and a graduate of the Medical College of Virginia in 1918. He served in a Portsmouth hospital as a naval reserve lieutenant during the World War and was for several years captain of the Danville Hospital Company in the National Guard. Dr. Hawkins had been a member of the Medical Society of Virginia for twenty years. His wife and three children survive him.

Dr. Asa Wesley Graves,

Lacey Spring, died on April 12 of diabetes mellitus, having been in ill health for sometime. He was sixty-one years of age and a graduate in medicine of the Medical College of Virginia, Richmond, in 1910. Dr. Graves had been a member of the Medical Society of Virginia for some years. He saw service in the World War.

Resolutions on the Death of Dr. James Morrison.

The following resolutions were adopted at the last meeting of the Lynchburg Academy of Medicine:

WHEREAS, death has removed from our midst, a beloved and valuable associate, Dr. James Morrison.

WHEREAS, Dr. James Morrison has been prominently identified with the professional, business, and civic life of this community for the past forty years. As a younger man, he was a member of the Board of Aldermen, at the time of the construction of the present public water supply, and due largely to his efforts, the present filtration plant was installed. He was a member of the Public School Board at the time of the construction of the E. C. Glass High School. In serving in these various civic capacities, he displayed the same unswerving devotion to duty that characterized the conduct of his professional career.

BE IT THEREFORE RESOLVED, that in his passing, the Lynchburg Academy of Medicine, and the City of Lynchburg, have lost the services of a skilled physician, a resourceful worker, and a wise and kindly advisor.

BE IT FURTHER RESOLVED, that a copy of these resolutions be spread upon the minutes of the meeting, that a copy be presented to the family of Dr. Morrison, and that they be published in the VIRGINIA MEDICAL MONTHLY.

JAS. R. GORMAN,
R. D. CALDWELL,
D. P. SCOTT, *Chairman.*

Resolutions on Death of Dr. Faulkner.

WHEREAS an all wise Providence has seen fit to take from us our friend and fellow alumnus, Dr. Donald MacKenzie Faulkner;

We, the Alumni of the New York Orthopaedic Dispensary and Hosptial in business session June 10, 1940, wish to express our sincerest sympathy to his family in their loss and our high appreciation of him as an orthopaedic surgeon of great ability, a friend and a gentlemen.

BE IT RESOLVED that this token of esteem be spread upon the minutes of the Alumni Association, a copy be sent to the VIRGINIA MEDICAL MONTHLY, and that a copy be sent to his bereaved family.

FOY VANN, M. D.
ROY M. HOOVER, M. D.